

EXHIBIT A

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZTE Corporation, ZTE (USA), Inc., and ZTE (TX), Inc.,

Petitioner,

v.

WSOU Investments LLC D/B/A Brazos Licensing and Development,

Patent Owner.

U.S. Patent No. 7,203,505

Filing Date: Aug. 30, 2001

Issue Date: Apr. 10, 2007

Case No. IPR2021-00698

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 7,203,505**

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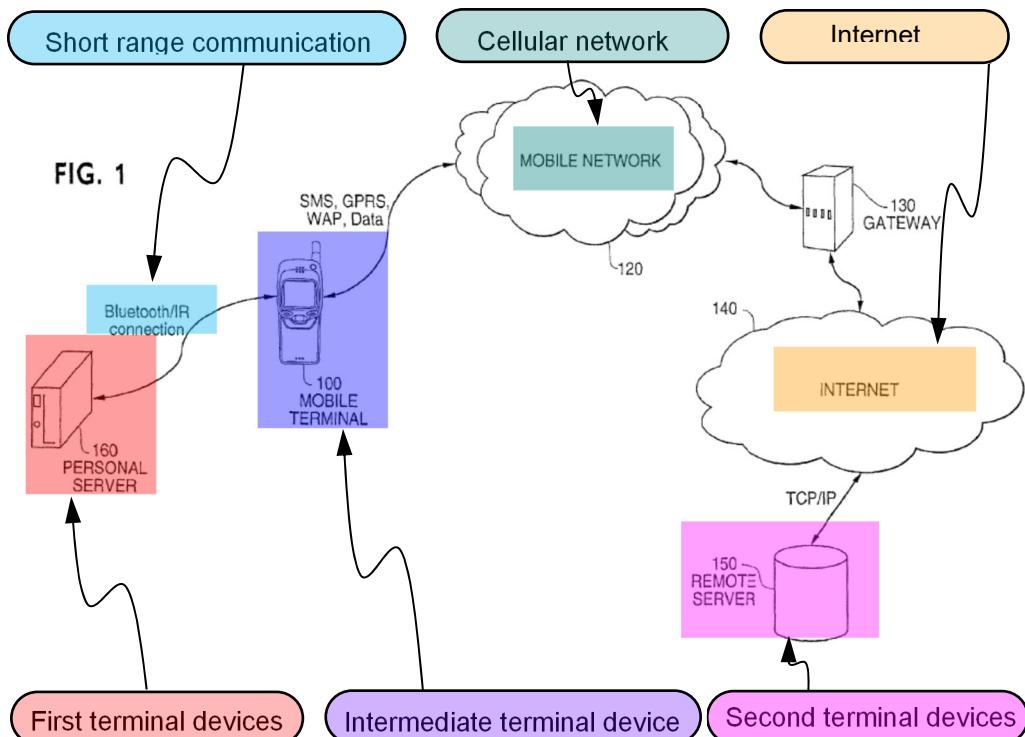
LIST OF EXHIBITS

Exhibit	Description
Ex-1001	U.S. Patent No. 7,203,505 (the '505 patent)
Ex-1002	Prosecution File History of U.S. Patent No. 7,203,505
Ex-1003	Declaration of Stephen Gray
Ex-1004	Curriculum Vitae of Stephen Gray
Ex-1005	U.S. Patent No. 7,295,532 ("Haller")
Ex-1006	U.S. Patent No. 7,058,036 ("Yu")
Ex-1007	U.S. Patent No. 6,925,481 ("Singhal")
Ex-1008	U.S. Patent No. 7,191,250 ("Oueslati")
Ex-1009	U.S. Patent No. 6,633,759 ("Kobayashi")
Ex-1010	U.S. Patent No. 5,353,328 ("Jokimies")
Ex-1011	U.S. Patent App. Pub. No. 2002/0161769 ("Sutinen")
Ex-1012	U.S. Patent No. 6,560,456 ("Lohtia")
Ex-1013	U.S. Patent No. 6,097,961 ("Alanara")
Ex-1014	U.S. Patent App. Pub. No. 2004/0048603 ("Corneliussen")
Ex-1015	U.S. Patent App. Pub. No. 2003/0078890 ("Schmidt")
Ex-1016	U.S. Patent App. Pub. No. 2002/0123307 ("Winarski")
Ex-1017	U.S. Patent App. Pub. No. 2002/0087596 ("Lewontin")

I. PRELIMINARY STATEMENT

ZTE Corporation, ZTE (USA), Inc., and ZTE (TX), Inc., (collectively “ZTE”) requests *inter partes* review of claims 1-45 of U.S. Patent No. 7,203,505 (Ex-1001), assigned to WSOU Investments LLC (“WSOU”)¹.

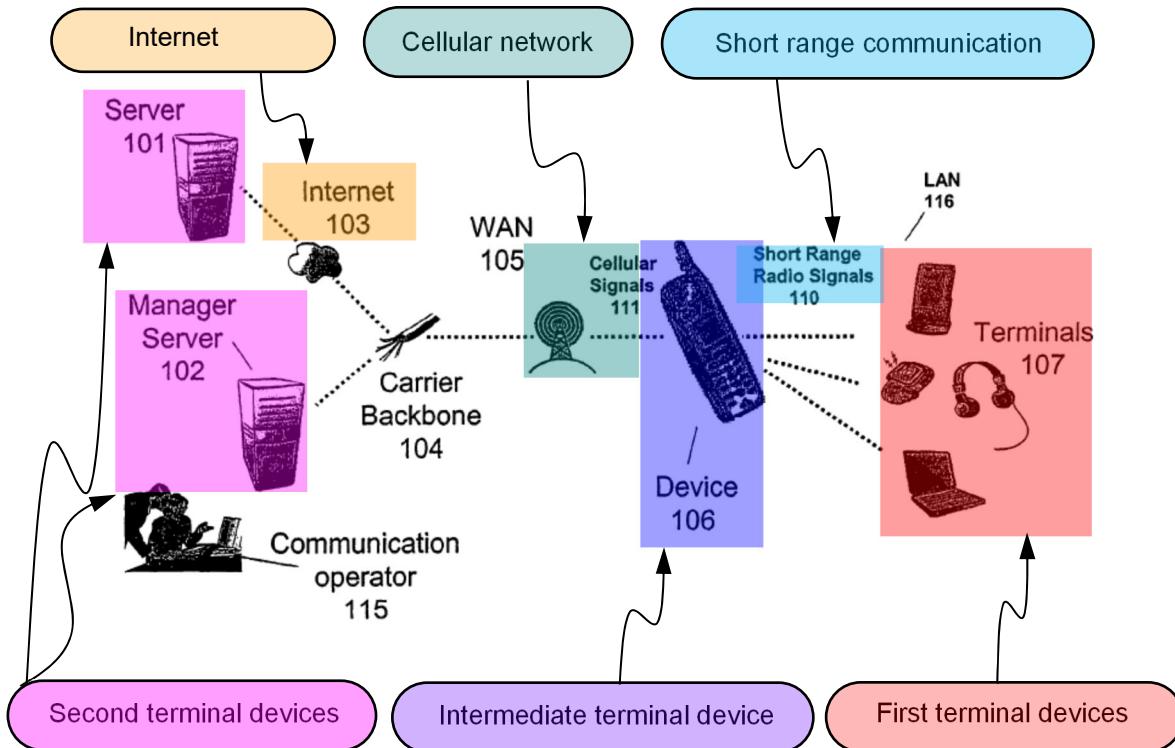
The ’505 patent describes methods for transferring a data message between a first terminal device and a second terminal device via an intermediate terminal device, but the disclosed methods were known in the prior art.



’505 patent, FIG. 1 (Annotated)

¹ WSOU asserts the ’505 patent against ZTE in *WSOU Investments LLC v. ZTE Corporation et al.*, 6:20-cv-00497-ADA (W.D. Tex.) (“Litigation”).

Haller (Ex-1005) and *Yu* (Ex-1006) disclose methods for transferring a data message like those claimed in '505 patent. Alone or when combined in routine, predictable ways, *Haller*, *Yu*, *Singhal* (Ex-1007), and *Oueslati* (Ex-1008) anticipate or render obvious all features of the challenged claims.

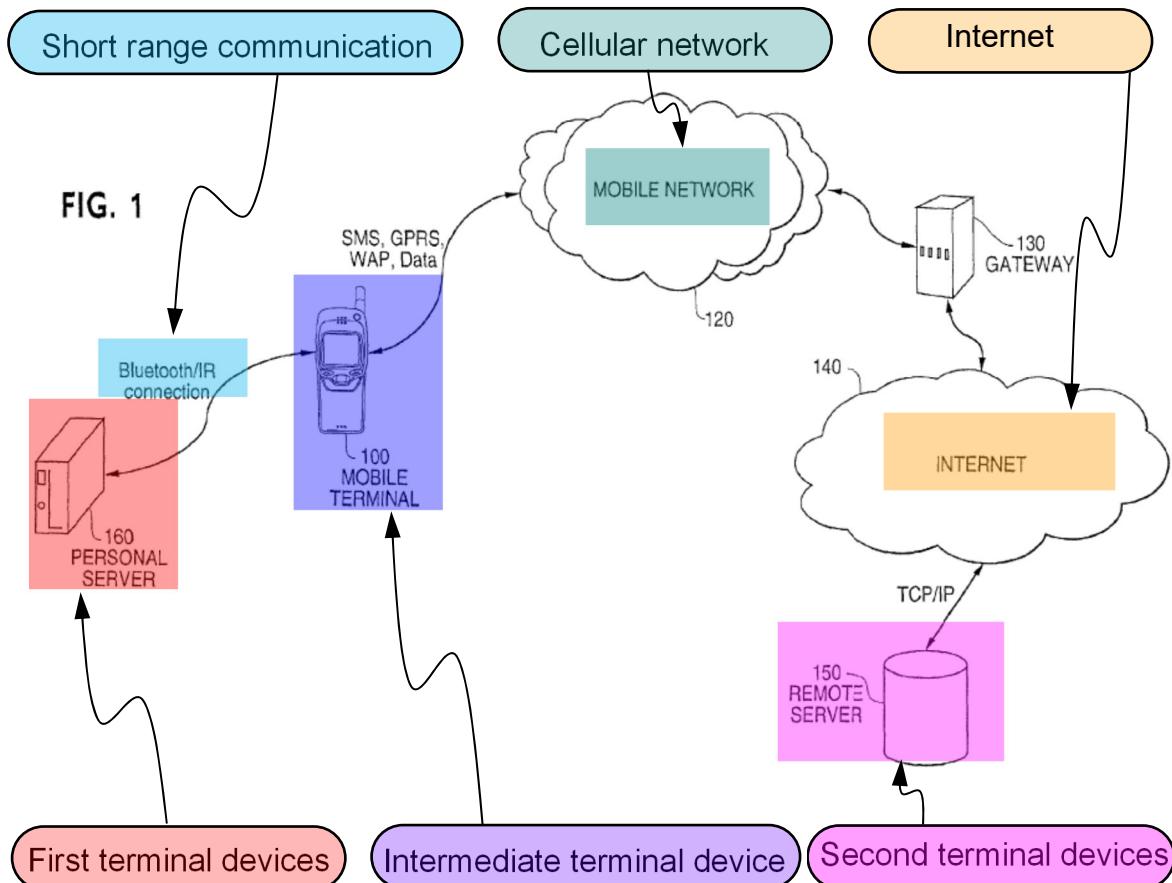


Haller, FIG. 1 (Annotated)

II. THE '505 PATENT

A. Summary of '505 Patent

The '505 patent describes a method “for transferring a data message between a **first terminal device** and a **second terminal device** via an **intermediate terminal device**



'505 Patent, FIG. 1 (annotated)

The method includes “entering a data message into the first terminal device; transmitting the data message from the first terminal device to the intermediate terminal device; formatting the data message into at least one **SMS (Short Message Service)** message in the intermediate terminal device; and transmitting the at least one SMS message from the intermediate terminal device to the second terminal device.” Ex-1001, Abstract.

The '505 patent also describes that the “intermediate terminal device may include a **mobile terminal** and the data message may be transferred from the first

terminal device to the intermediate terminal device via a [short range communication](#) link which may include an IR or Bluetooth communication link.”

Id.

The method aims to [synchronize](#) data between the first terminal device and the second terminal device. *See id.*, 4:11-16. For example, “a salesman who is away from his office may wish to update his calendar and business contacts address book on his mobile terminal device and to then update, that is, [synchronize](#), his calendar and business contacts address book on his office computer.” *Id.*, 3:16-21.

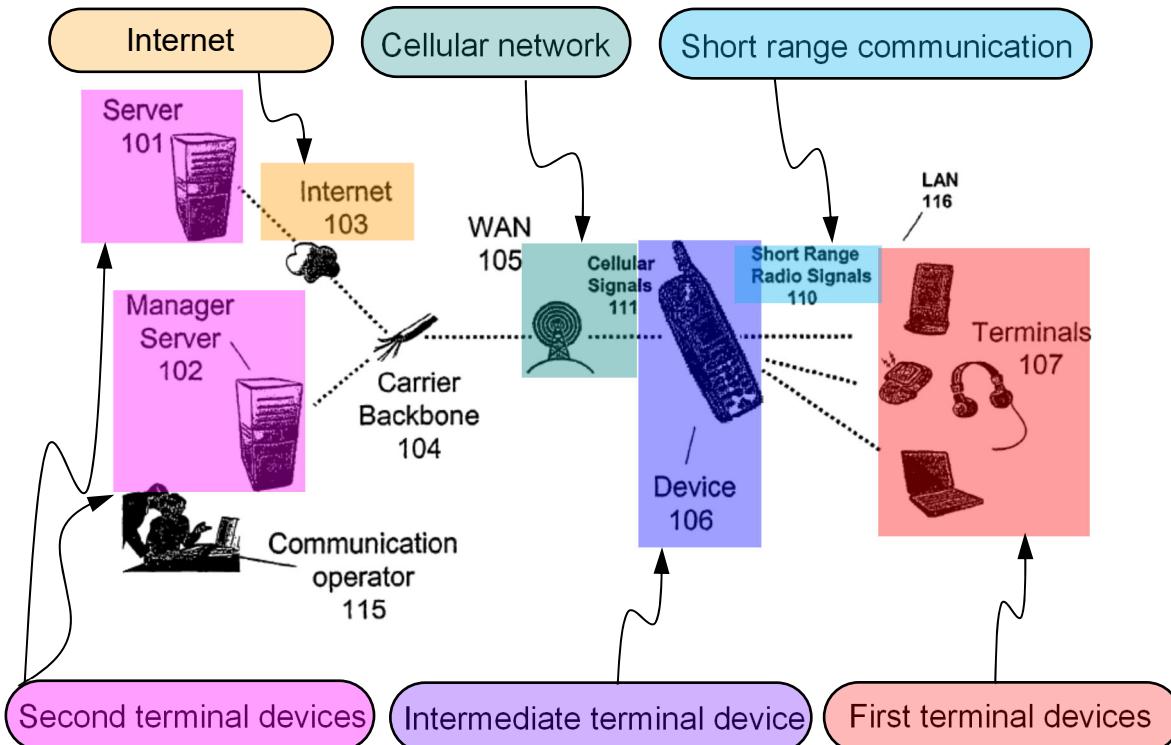
B. The '505 Patent Prosecution History

During prosecution of '505 patent, the Examiner indicated that “the prior art of record fails to disclose or specifically suggested formatting a data to be synchronized into at least one SMS message in an intermediate terminal device and transmitting the at least one SMS message from the intermediate terminal device to a second remote located terminal device through cellular network connection.” Ex-1002, p. 178.

III. OVERVIEW OF PRIOR ART

A. *Haller*

Like '505 patent, *Haller* is concerned about a scenario in which “a user is a traveling professional who has a PDA and needs to synchronize it against a corporate exchange server while on the road.” Ex-1005, 14:26-28.



Haller, FIG. 1 (annotated)

Haller discloses a system and method that address the scenario. For example, as shown above in annotated FIG. 1, *Haller* discloses a system 100 in which “terminals 107 are coupled to device 106 by short-range radio signals 110 to form LAN 116.” *Id.*, 5:33-35. In *Haller*’s system, “terminals 107 are a desktop computer, a laptop computer, a personal digital assistant, a headset, a pager, a

printer, a watch, a thin terminal, a digital camera or an equivalent,” and “terminals 107 include a Bluetooth™ 2.4 GHz transceiver/receiver. Likewise, device 106 includes a Bluetooth™ 2.4 GHZ transceiver/receiver.” *Id.*, 5:29-47.

Haller discloses that “WAN 105 is coupled to device 106,” and “WAN 105 includes a cellular network transmitting and receiving cellular signals 111.” *Id.*, 5:52-55.

Haller discloses that “WAN 105 is coupled to a wireless carrier internal network or carrier backbone 104,” and “manager server 102 is coupled to carrier backbone 104,” and alternatively, “carrier backbone 104 is coupled to Internet 103. Server 101 is coupled to Internet 103.” *Id.*, 6:20-35.

Haller discloses examples of data synchronization using system 100. For instance, “[a]s the user turns on the PDA, which is a Bluetooth™ equipped PDA with a LAN Access profile implementation, the PDA connects to the cellular telephone via the BAP 551 utilizing Bluetooth™. The PDA receives a private IP address. The user loads the PDA synchronization software, which is configured to synchronize against the corporate exchange server. When hitting the “Synchronize” button, the PDA opens a TCP connection to the IP address of the corporate network. The IP packets travel across the Bluetooth™ air interface to the cellular telephone using a PPP protocol and PPP 552. When reaching the cellular telephone, the packets go through NAT 553 and the private IP address is

translated to a public IP address. The public IP address goes to VPN 406 f, which identifies the destination as the corporate LAN. VPN 406 f packages the packet over an Internet tunnel, encrypts and signs it. The **packet** is then sent through the **cellular air interface** and the **Internet**, reaching the **corporate** VPN and **exchange servers**.” *Id.*, 14:40-60.

Haller discloses formatting the data packet to be synchronized into an SMS message in device 106. *Haller* discloses “a software architecture 500 for device 106,” (*Id.*, 7:35-36), including “service plug-ins 406.” *Id.*, 6:31. As shown below in annotated FIG. 5, *Haller* discloses that the service plug-ins 406 include an “SMS software component plug-in 406h.” *Id.*, 13:17.

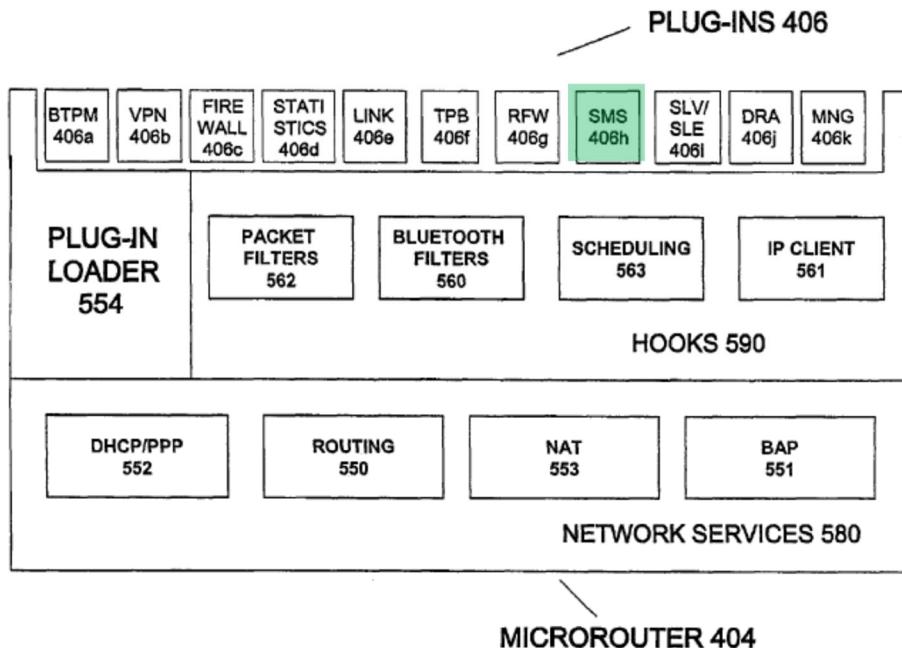


Fig. 5

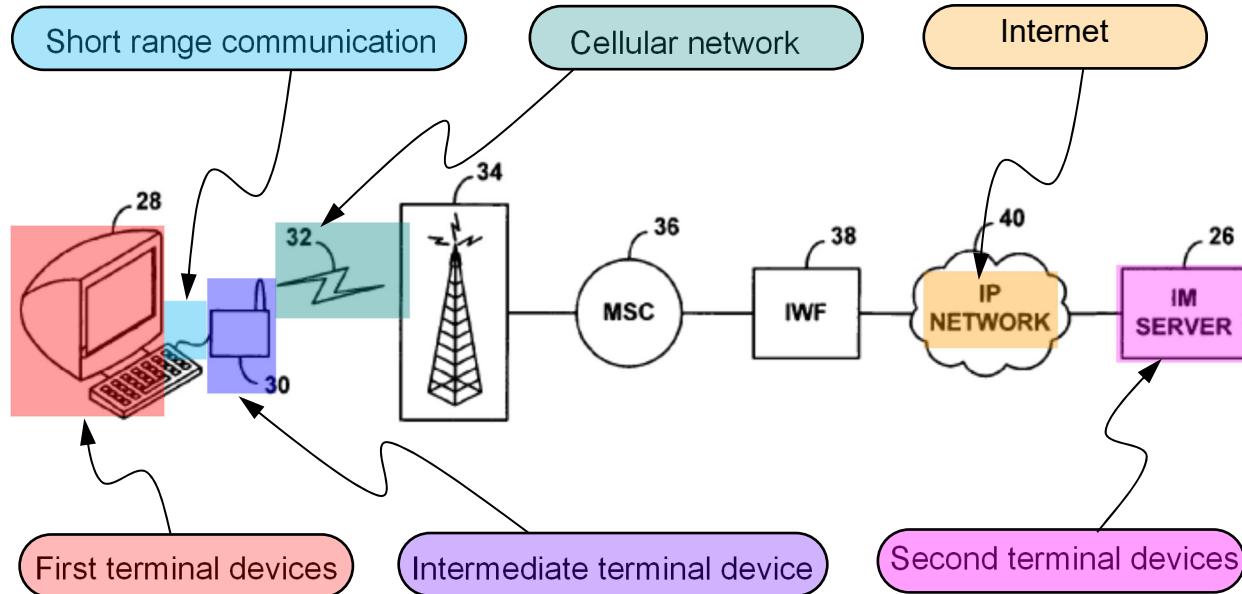
Haller, FIG. 5 (annotated)

Haller discloses that the SMS software component plug-in 406h “enables standard legacy **SMS** or Instant Messaging over **SMS**.” *Id.*, 13:21-23. *Haller* also discloses that SMS software component plug-in 406h is “an SMS server for **terminals 107** and an SMS termination for **device 106**. In this way, a protocol will be defined that enables each terminal to send a **packet** to SMS 406h with a destination device phone number + message text. SMS 406h then send the **SMS message** to a **cellular network**.” *Id.*, 13:16-35.

B. *Yu*

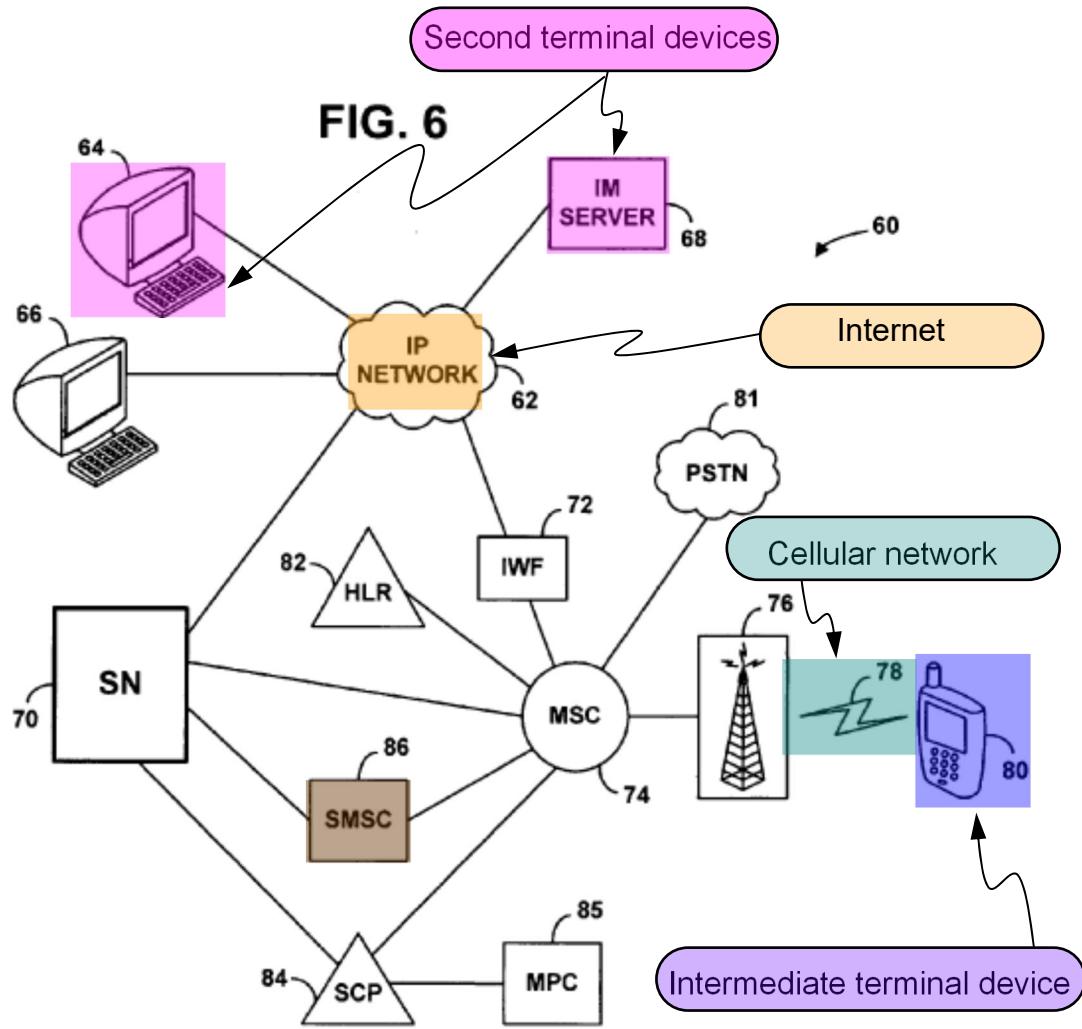
Yu discloses a “wireless instant messaging system.” Ex-1006, Abstract. For example, as shown below in annotated FIG. 2, *Yu* discloses a system in which “a **computer 28** is connected with a **cellular modem 30**. In accordance with conventional **cellular radio telecommunications** practice, the cellular modem 30 communicates over an air interface 32 with a cellular base station controller (BSC) 34, which is in turn coupled with a mobile switching center (MSC) 36,” (*Id.*, 3:7-12), and “MSC 36 is in turn coupled with an “interworking function” (IWF) 38, which commonly serves as a **wireless/IP gateway** to transparently pass wireless protocol signals (e.g., CDMA, TDMA, etc.) from MSC 36 onto an IP network and vice versa. Thus, IWF 38 is coupled to an **IP network 40**, to which **IM server 26** is also coupled.” *Id.*, 3:15-24. In the system, computer 28 “can interact with **IM**

server 26 so as to facilitate instant messaging communications with a user at computer 28.” *Id.*, 3:28-30.



Yu, FIG. 2 (annotated)

Yu shows the details of the network for the instant messaging between cellular modem 30 and IM server 26 in FIG. 6. As shown below in annotated FIG. 6, *Yu* discloses that a mobile station MS 80, such as cellular modem 30 in FIG. 2, “subscribes to SMS service and is therefore capable of **sending** and **receiving** SMS messages.” *Id.*, 11:45-48. That is, the MS 80 may send an SMS message to the IM server 68 (such as IM server 26 in FIG. 2) or receive an SMS message from the IM server 68.



Yu, FIG. 6 (annotated)

Yu further elaborates the receiving process. For instance, Yu discloses that IM client in IM server 68 “sends an IM message to the user at MS 80, the message will go to SN 70.” *Id.*, 13:55-58. Upon receipt of the message, “SN 70 will then convert the message into an SMS message and forward the SMS message to MS 80.” *Id.*, 14:19-21. If MS 80 is not available to engage in instant messaging, “SMSC [short message service center] 86 can serve a store and forward function

for **SMS messaging** as defined by IS-41. When MS 80 registers in a given serving system, the serving system sends a REGNOT message to the MS's HLR 82, including an **SMS_Address** parameter indicative of the location of MSC 74. SMSC 86 may then receive an SMS message addressed to a MS served by MS 74. In response, SMSC 86 may query HLR 82 to find out where MS 80 is located, and HLR 82 would respond with the **SMS_Address** parameter. **SMSC 86** may then route the **SMS message** to MSC 74, and MSC 74 could then deliver the SMS message to **MS 80** for display to a user.” *Id.*, 12:25-36.

C. *Singhal*

Singhal is directed to a method for “enabling wireless information devices to access and manipulate data. The data being accessed may reside on a Web server, a file server, a personal desktop PC, or elsewhere. The data may represent virtually any type of information, including Web content, e-mail messages, or files in various formats.” Ex-1007, 3:28-33. In particular, *Singhal* discloses “a **synchronization** protocol proxy [] which may be used to **synchronize** data stored locally on a user's **WID** [wireless information device] with data stored elsewhere (such as on the user's desktop **PC**). An example **synchronization** protocol is “**SyncML**” which is being developed by The SyncML Initiative to seamlessly **synchronize** wireless and wireline data and devices. (See <http://www.syncml.org> for more information on SyncML.).” *Id.*, 6:9-16. *Singhal* also discloses that “files

of type “XML” may be converted to **WBXML** (“Wireless Application Protocol Binary XML”) decks,” (*Id.*, 7:56-58) and that “multi-part **MIME** (Multi-purpose Internet Mail Extensions) message may be generated which contains the original content (in one part) and the service description (in another part).” *Id.*, 15:3-6.

D. *Oueslati*

Oueslati discloses a protocol “for wireless data exchange via a packet transport based system. The protocol may be used in conjunction with two or more portable computer systems. One of the portable computer systems may be a personal digital assistant (PDA) having an internal wireless communication unit, e.g., a GSM radio using the Short Message Service (**SMS**).” Ex-1008, 2:44-50. The protocol uses a data type identifier “to determine the proper destination application. The data type identifier can identify by extension, MIME type or by application creator, for instance.” *Id.*, 2:60-64. The data type identifier “identifies more specifically the actual data type within the identified category. For instance, if the previous number was “1,” it is the Extension category of the data type (for example “vcf” means a **vCard** extension).” *Id.*, 9:45-49. *Oueslati* provides an example of sending “**vCards** wirelessly (e.g., using the **SMS** standard as a transport) to another computer system.” *Id.*, 10:3-5.

IV. LEVEL OF ORDINARY SKILL IN THE ART

The level of ordinary skill in the art may be reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). A person of ordinary skill in the art (“POSITA”) for the ’505 patent would at least have a bachelor’s degree in electrical engineering, computer engineering, or a related engineering discipline and two or more years of industry experience in the field of telecommunications, or equivalent experience, education, or both. Ex-1004. The person would also have knowledge or familiarity with telecommunication. *Id.*, Ex-1003, ¶41.

V. CLAIM CONSTRUCTION

Only claim terms “in controversy” need be construed in IPR “and only to the extent necessary to resolve the controversy.” *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citation omitted), *cert. denied*, 138 S. Ct. 1695 (2018). No claim terms need to be construed by the Board at this time.

In the District Court, Petitioner and Patent Owner have offered the following terms for construction, *see* Litigation, Dkt. 59, p. 3, after the number of terms have been narrowed:

Claim	Term	Petitioner’s Proposed Construction	Patent Owner’s Proposed Construction

1, 14, 23	“a formatter to format the received data into at least one SMS (Short Message Service) message”	Governed by 35 U.S.C. § 112(f) Function: formatting the received data into at least one SMS (Short Message Service) message Indefinite under 35 U.S.C. § 112(b); specification fails to describe it Structure: none disclosed	Plain and Ordinary Meaning
14	“data message receiver”	Indefinite under 35 U.S.C. § 112(b) Lack of Written description under 35 U.S.C. § 112(a)	Plain and Ordinary Meaning
1, 14, 23	“SMS (Short Message Service)”	Cellular based messages of limited size consisting of text and numbers.	Plain and Ordinary Meaning

For the purpose of this Inter Partes Review, Petitioner adopts Patent Owner's constructions for the above terms. Regardless of the indefiniteness of the terms, claims 1, 14, and 23 are still anticipated by *Haller*.

VI. STATEMENT OF PRECISE RELIEF REQUESTED FOR EACH CLAIM CHALLENGED

A. Claims for Which Review Is Requested

Petitioners respectfully request review under 35 U.S.C. § 311 of claims 1-45

of '505 patent and cancellation of those claims as unpatentable.

B. Statutory Grounds

Each asserted reference identified in the table below issued, published, and/or was filed before August 30, 2001, the earliest purported priority date of '505 patent. Thus, each asserted reference is prior art under at least one of pre-AIA 35 U.S.C. §§ 102(a), (b), and/or (e).

Prior Art References	Exhibit
<i>Haller</i> , U.S. Patent No. 7,295,532 B2, filed on Aug. 17, 2001, issued Nov. 13, 2007.	Ex-1005
<i>Yu</i> , U.S. Patent No. 7,058,036 B1, filed on Feb. 25, 2000, issued on Jun. 6, 2006.	Ex-1006
<i>Singhal</i> , U.S. Patent No. 6,925,481 B2, filed on May 3, 2001, issued on Aug. 2, 2005.	Ex-1007
<i>Oueslati</i> , U.S. Patent No. 7,191,250 B1, filed on Mar. 19, 2001, issued on Mar. 13, 2007.	Ex-1008

Claims 1-45 of '505 patent are unpatentable under the following grounds based on pre-AIA 35 U.S.C. §§ 102 and 103:

Grounds	Grounds of Unpatentability
1	<i>Haller</i> anticipates claims 1, 3, 10, 11, 12, 14, 20, 21, 23, 25, 32, 33, 34, 38, 39, 43, and 44.
2	<i>Haller</i> and <i>Yu</i> render obvious claims 4, 5, 13, 22, 26, 27, 35, 36, 37, 40, 41, 42, and 45.
3	<i>Haller</i> and <i>Singhal</i> render obvious claims 2, 6, 7, 8, 15, 16, 17, 18, 24, 28, 29, and 30.
4	<i>Haller</i> , <i>Singhal</i> , and <i>Oueslati</i> render obvious claims 9, 19, and 31.

VII. GROUND 1: *HALLER* ANTICIPATES CLAIMS 1, 3, 10, 11, 12, 14, 20, 21, 23, 25, 32, 33, 34, 38, 39, 43, AND 44

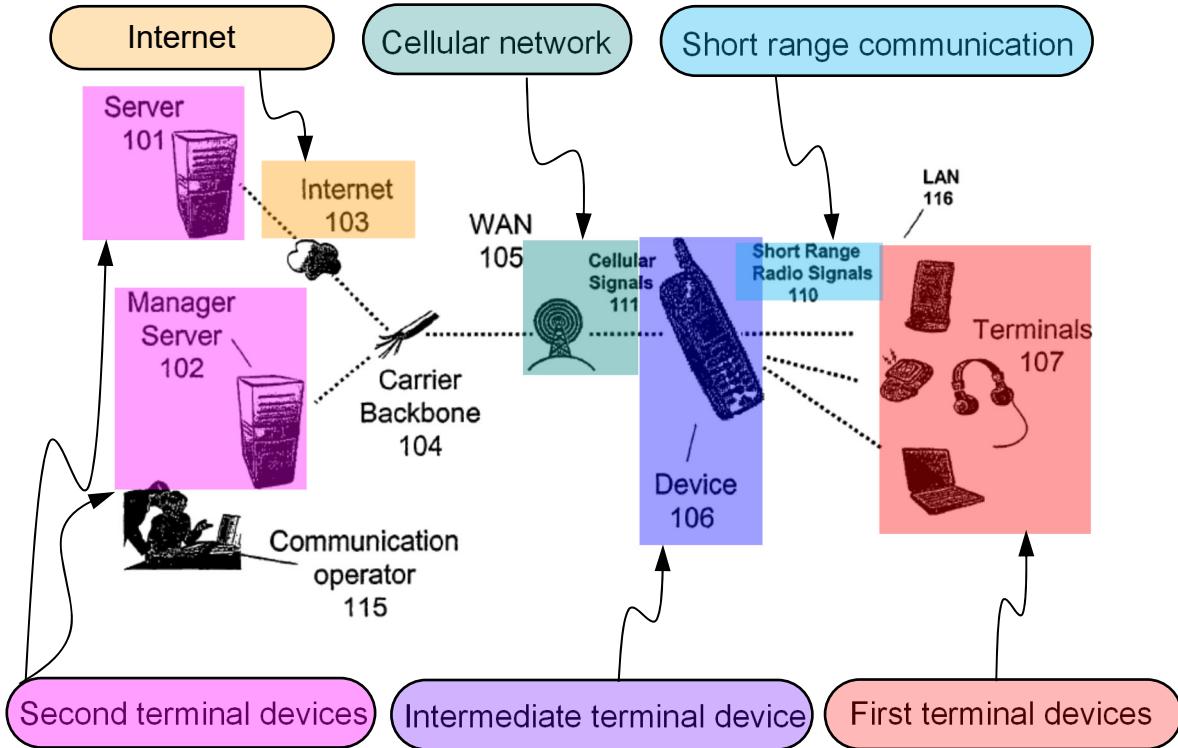
A. Independent Claims 1, 14, and 23

1. Independent Claim 1

- a. [1p] “A method for data synchronization between a first terminal device and a second, remotely located, terminal device via an intermediate terminal device, the method comprising:”

As shown below in annotated FIG. 1, *Haller* discloses a method for data synchronization between terminals 7 (the claimed first terminal device) and a

server 101 or 102 (the claimed second terminal device) via a device 106 (the claimed intermediate terminal device). Ex-1003, ¶¶63-65.



Haller, FIG. 1 (annotated)

Haller discloses a system 100 in which “terminals 107 are coupled to device 106 by short-range radio signals 110 to form LAN 116.” Ex-1005, 5:33-35. *Haller* discloses that “terminals 107 are a desktop computer, a laptop computer, a personal digital assistant, a headset, a pager, a printer, a watch, a thin terminal, a digital camera or an equivalent.” *Id.*, 5:29-47. *Haller* discloses that “WAN [wide area networks]105 is coupled to device 106,” and “WAN 105 includes a cellular network transmitting and receiving cellular signals 111.” *Id.*, 5:52-55. *Haller* discloses that “WAN 105 is coupled to a wireless carrier internal network or carrier

backbone 104,” and “**manager server 102** is coupled to carrier backbone 104,” and alternatively, “carrier backbone 104 is coupled to Internet 103. **Server 101** is coupled to Internet 103.” *Id.*, 6:20-35.

With system 100, *Haller* addresses the problem that “a user is a traveling professional who has a **PDA** [personal digital assistant] and needs to **synchronize** it against a **corporate exchange server** while on the road.” *Id.*, 14:26-31.

b. [1a] “obtaining, at the first terminal device, data to be synchronized with the second remotely located terminal device;”

The '505 patent fails to define the “obtaining” and “data to be synchronized.” Nevertheless, for the purposes of this petition, Petitioner understands that any data in the first terminal device is obtained data and any data sent to the second remotely located terminal device is the “data to be synchronized.”

Haller discloses obtaining, at the PDA (the claimed first terminal device) data packets (the claimed data to be synchronized) to be synchronized with the server 101 or 102 (the claimed second remotely located terminal device). Ex-1003, ¶¶66-70. *Haller*’s server 101 or 102 is the claimed second remotely located terminal device because, as shown above in annotated FIG. 1, server 101 or 102 communicates with terminals 107 via WAN 105 (e.g., cellular network). *Id.*, ¶67.

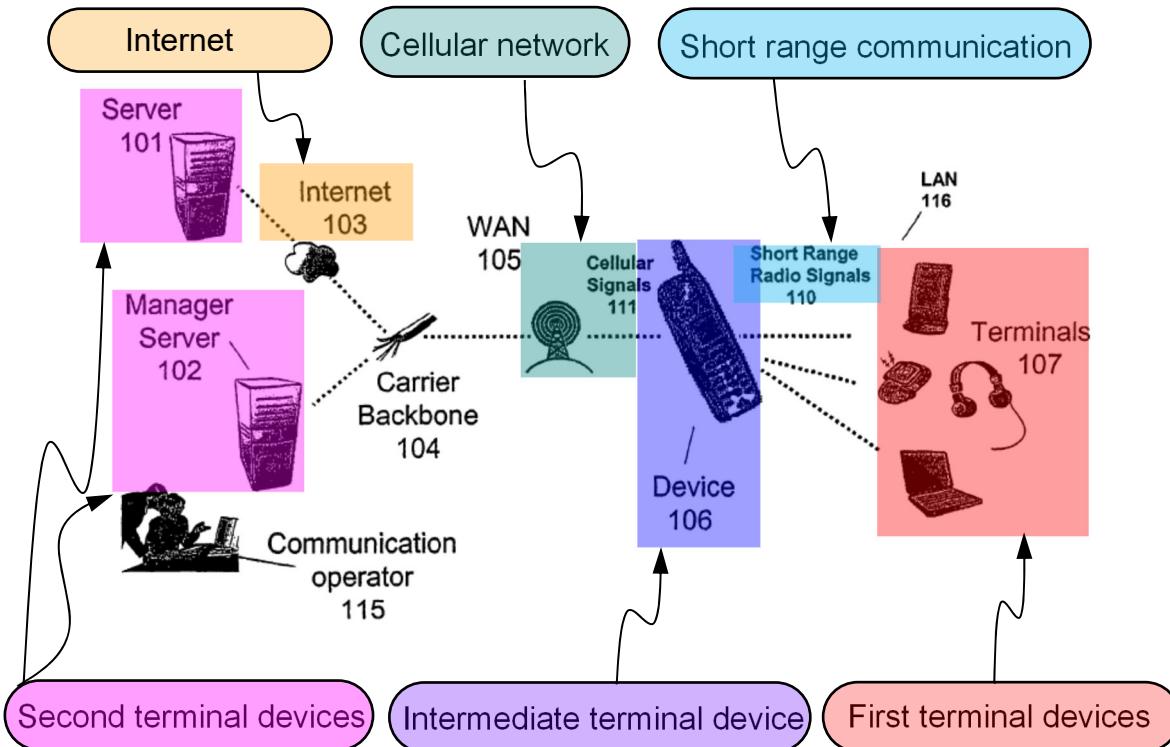
Haller discloses obtaining at PDA data packet to be synchronized with server 101 or 102. For instance, *Haller* discloses that “a user is a traveling professional who has a PDA and needs to synchronize it against a corporate exchange server while on the road.” Ex-1005, 14:26-31. “As the user turns on the PDA, which is a Bluetooth™ equipped PDA with a LAN Access profile implementation, the PDA connects to the cellular telephone via the BAP 551 utilizing Bluetooth™. The PDA receives a private IP address. The user loads the PDA synchronization software, which is configured to synchronize against the corporate exchange server. When hitting the “Synchronize” button, the PDA opens a TCP connection to the IP address of the corporate network. The IP packets travel across the Bluetooth™ air interface to the cellular telephone using a PPP protocol and PPP 552.” *Id.*, 14:40-60.

Haller also recites “a router software component to transfer a plurality of data packets between the one or more devices connected to the one or more cellular networks and the one or more devices connected to the wireless local area network by the cellular signals and the short-range radio signals,” (*Id.*, Claim 1), and “the plurality of data packets includes an Internet Protocol (“IP”) packet.” *Id.*, Claim 2.

Therefore, *Haller* discloses obtaining, at the first terminal device, data to be synchronized with the second remotely located terminal device.

c. [1b] “transmitting the data from the first terminal device to the intermediate terminal device through a short-range connection;”

As shown below in annotated FIG. 1, *Haller* discloses transmitting the data packets from terminals 107 including the PDA (the claimed first terminal device) to device 106 (the claimed intermediate terminal device) through short range radio signals 110 (the claimed short-range connection). Ex-1003, ¶¶71-73.



Haller, FIG. 1 (annotated)

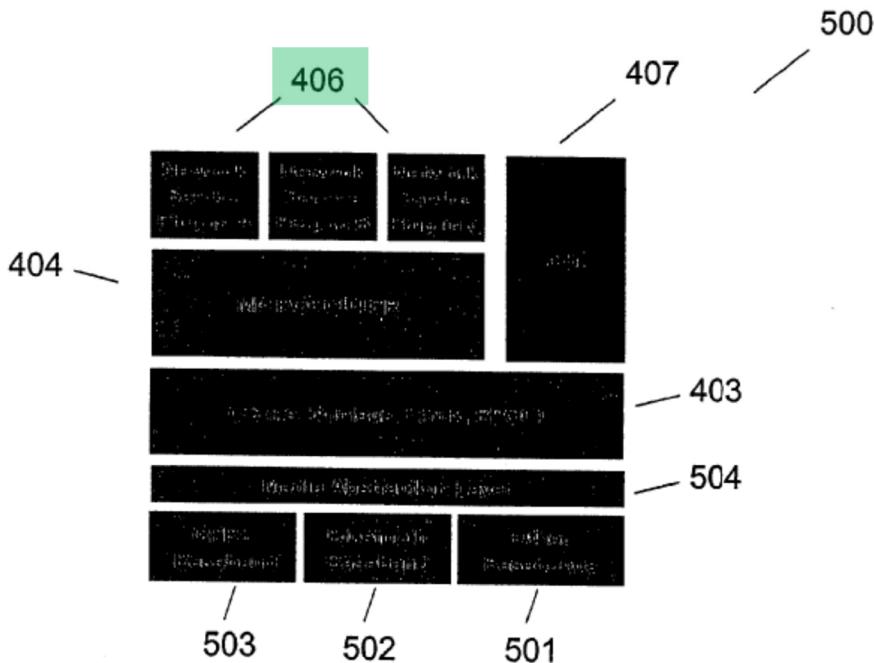
Haller discloses that “[w]hen hitting the “Synchronize” button, the **PDA** opens a TCP connection to the IP address of the corporate network. The **IP packets** travel across the **Bluetooth™** air interface to the **cellular telephone** using a PPP protocol and PPP 552.” Ex-1005, 14:47-51.

Therefore, *Haller* discloses transmitting the data from the first terminal device to the intermediate terminal device through a short-range connection.

d. [1c] “formatting the data to be synchronized into at least one SMS (Short Message Service) message in the intermediate terminal device; and”

Haller discloses formatting the data packet to be synchronized into an SMS message in the device 106 (the claimed intermediate terminal device). Ex-1003, ¶¶74-78.

As shown below in annotated FIG. 4, *Haller* discloses “a software architecture 500 for [device 106](#),” (Ex-1005, 7:35-36), that includes “service plugs 406.” *Id.*, 6:31.



Haller, FIG. 4 (annotated)

As shown below in FIG. 5, *Haller* discloses that the service plug-ins 406 includes an “SMS software component plug-in 406h.” *Id.*, 13:17.

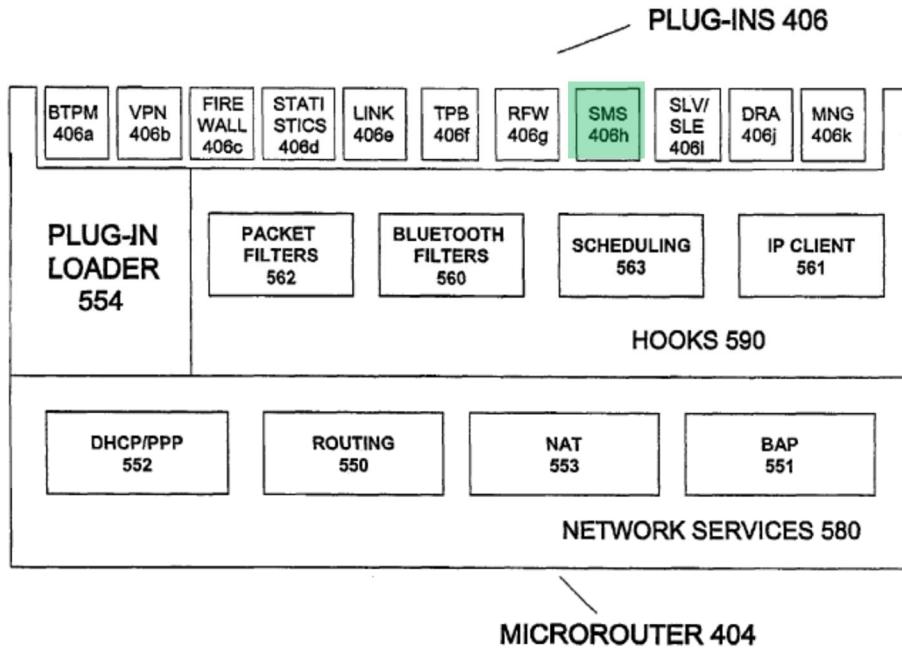


Fig. 5

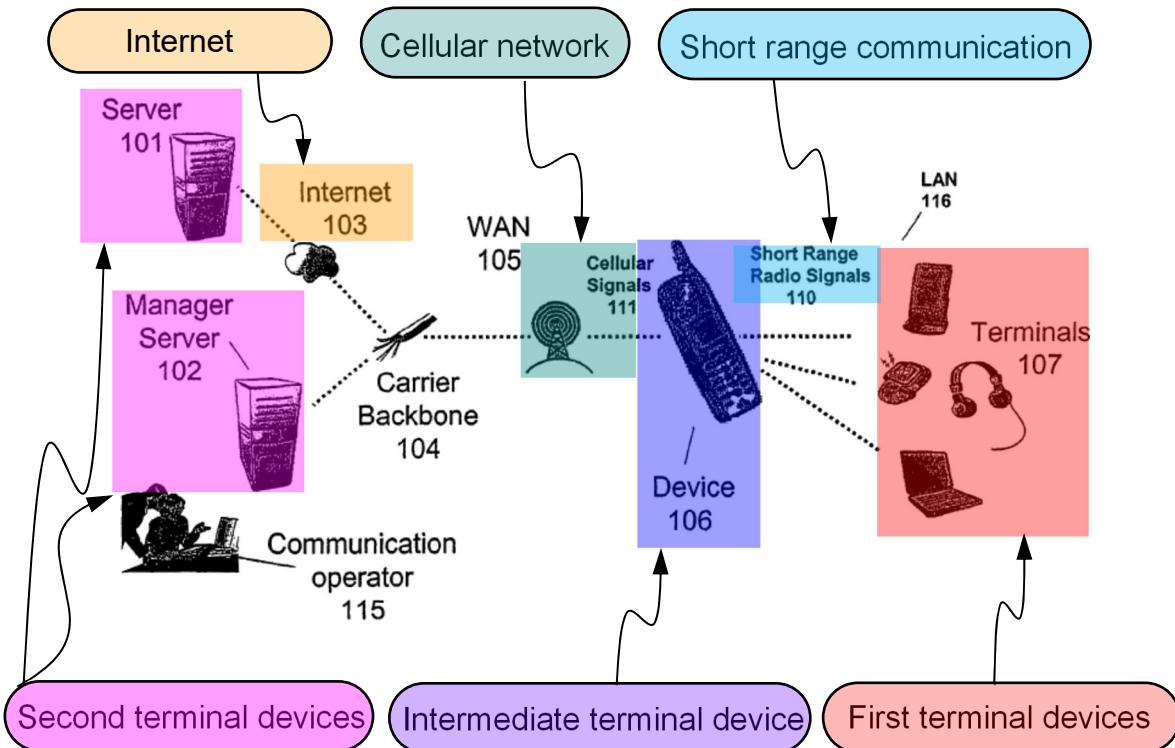
Haller, FIG. 5 (annotated)

Haller discloses that SMS software component plug-in 406h “enables standard legacy **SMS** or Instant Messaging over **SMS**.” *Id.*, 13:21-23. *Haller* also discloses that SMS software component plug-in 406h is “an SMS server for **terminals 107** and an SMS termination for **device 106**. In this way, a protocol will be defined that enables each terminal to send a **packet** to SMS 406h with a destination device phone number + message text. SMS 406h then send the **SMS message** to a **cellular network**.” *Id.*, 13:16-35.

Because the data packet transmitted from terminals 107 such as the PDA (the claimed first terminal device) is formatted into an SMS message by SMS software component plug-in 406h of device 106 (the claimed intermediate terminal device), *Haller* discloses formatting the data to be synchronized into at least one SMS (Short Message Service) message in the intermediate terminal device.

- e. **[1d] “transmitting the at least one SMS message from the intermediate terminal device to the second remote located terminal device through cellular network connection.”**

As shown below in annotated FIG. 1, *Haller* discloses transmitting the SMS message from device 106 (the claimed intermediate terminal device) to server 101 or 102 (the claimed second remote located terminal device) through cellular signals 111 (the claimed cellular network connection). Ex-1003, ¶¶79-82.



Haller, FIG. 1 (annotated)

Haller discloses that “SMS 406h is an SMS server for terminals 107 and an SMS termination for device 106. In this way, a protocol will be defined that enables each terminal to send a packet to SMS 406h with a destination device phone number + message text. **SMS 406h** then **send** the **SMS message** to a **cellular network**.” Ex-1005, 13:16-35.

Haller also discloses that the cellular network is “coupled to a wireless carrier internal network or carrier backbone 104,” and “**manager server 102** is coupled to carrier backbone 104,” and alternatively, “carrier backbone 104 is coupled to Internet 103. **Server 101** is coupled to Internet 103.” *Id.*, 6:20-35.

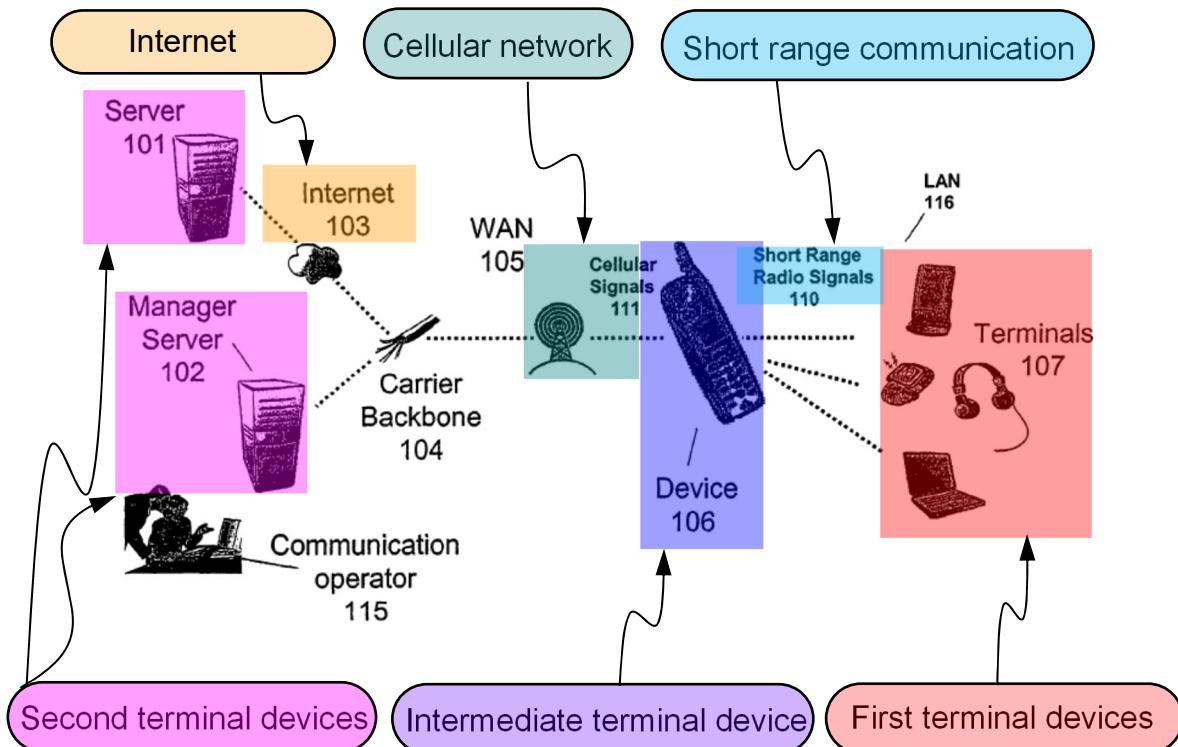
Therefore, the SMS message sent by SMS 406 of device 106 is transmitted to the server 101 or 102.

Therefore, *Haller* discloses transmitting the at least one SMS message from the intermediate terminal device to the second remote located terminal device through cellular network connection.

2. Independent Claim 14

a. [14p] “A mobile terminal device comprising:”

As shown below in annotated FIG. 1, *Haller* discloses a device 106 (the claimed mobile terminal device). Ex-1003, ¶¶83-86.



Haller, FIG. 1 (annotated)

Haller discloses a system 100 including “terminals 107 coupled to [wireless device 106](#).” Ex-1005, 5:29-31. *Haller* also discloses that “[device 106](#) is a [cellular](#) handset or telephone.” *Id.*, 6:16-17.

As shown above in annotated FIG. 1, *Haller* also discloses that “WAN 105 is coupled to [device 106](#),” and that “WAN 105 includes a [cellular network](#) transmitting and receiving cellular signals 111.” *Id.*, 5:52-55.

Therefore, *Haller* discloses the mobile terminal device.

- b. [14a] “a data message receiver to receive data from a first terminal device, which data is to be synchronized with a second, remotely located, terminal device via a short range communication link;”**

Petitioner raised indefiniteness issues for the term “data message receiver” during the Litigation matters, however, as discussed above (Section V), Petitioner adopts Patent Owner’s construction for this phrase.

Nevertheless, a POSITA would understand that the combination of a processor 307, an RF circuit 309, and an antenna 313 of device 106, disclosed by *Haller*, would be equivalent to any defined “data message receiver.” Ex-1003, ¶88. *Haller* discloses a combination of a processor 307, an RF circuit 309, and an antenna 313 of device 106 that receives data from terminals 107 (the claimed first terminal device), which data is to be synchronized with server 101 or 102 (the

claimed second, remotely located, terminal device) via a short range communication link. Ex-1003, ¶¶87-90.

As shown below in annotated FIG. 3a, *Haller* discloses that device 106 includes “[p]rocessor 307, RF circuit 309 and antenna 313 [that] transceive and receive short-range radio signals to and from terminals 107.” Ex-1005, 7:6-10.

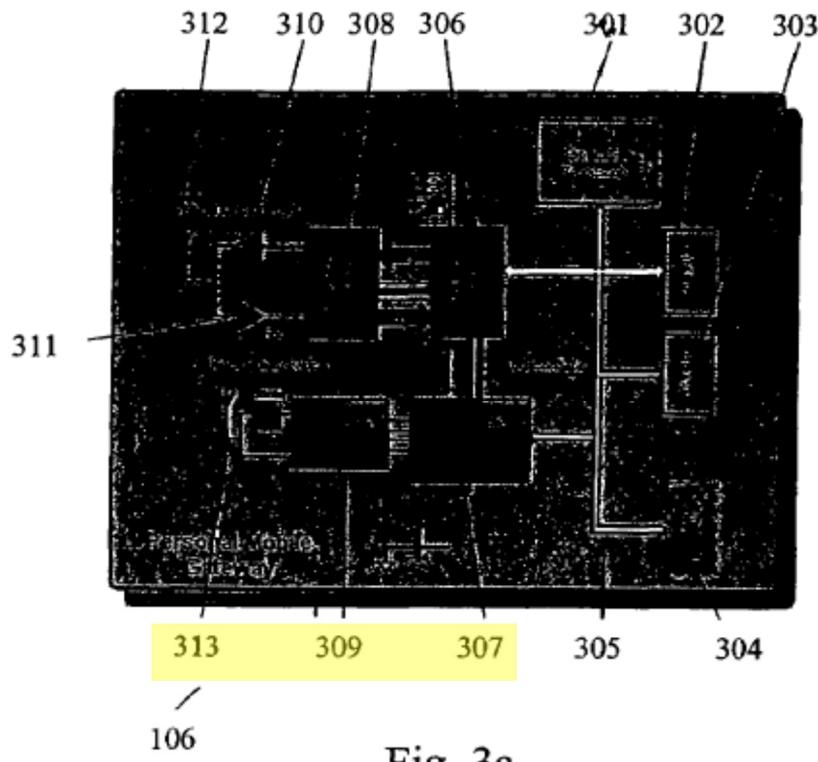


Fig. 3a

Haller, FIG. 3a (annotated)

The data received from terminals 107 are further transmitted to server 101 or 102 for synchronization. For instance, *Haller* discloses that “the PDA connects to the cellular telephone via the BAP 551 utilizing Bluetooth™. The PDA receives a private IP address. The user loads the PDA synchronization software, which is

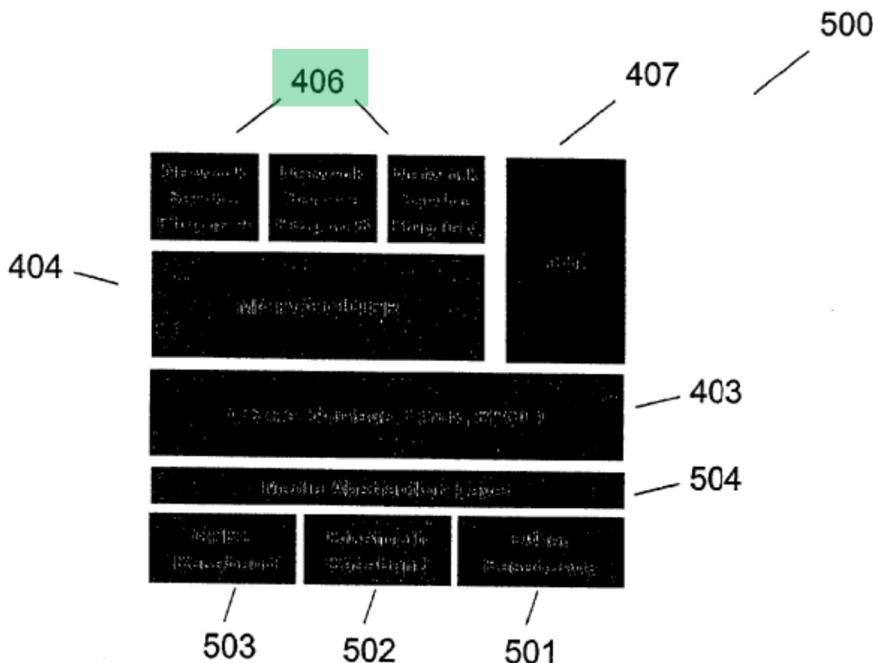
configured to synchronize against the corporate exchange server. When hitting the “Synchronize” button, the PDA opens a TCP connection to the IP address of the corporate network. The IP packets travel across the Bluetooth™ air interface to the cellular telephone using a PPP protocol and PPP 552. When reaching the cellular telephone, the packets go through NAT 553 and the private IP address is translated to a public IP address. The public IP address goes to VPN 406 f, which identifies the destination as the corporate LAN. VPN 406 f packages the packet over an Internet tunnel, encrypts and signs it. The packet is then sent through the cellular air interface and the Internet, reaching the corporate VPN and exchange servers.” *Id.*, 14:40-60.

c. [14b] “a formatter to format the received data into at least one SMS (Short Message Service) message;”

In the event that the “formatter” is a means-plus-function term, then as discussed above (Section V), Petitioner adopts the Patent Owner’s construction. As such, Petitioner understands for the purpose of this Petition that the corresponding structure is “a mobile terminal device” and the function is formatting the received data into at least one SMS (Short Message Service) message. *See* Litigation, Dkt. 59, p. 5 (Patent Owner arguing that ’505 patent discloses “Modern-day mobile terminals, such as mobile telephones, have been provided with the SMS (Short Message Service) capability,” 1:66-2:1 and 3:49-50).

Nevertheless, a POSITA would understand that the plug-in 406h disclosed by *Haller* would be equivalent to any defined structure for “formatter.” Ex-1003, ¶92. *Haller* discloses an SMS software component plug-in 406h (which Petitioner understands discloses the formatter) to format the received data into at least one SMS message. Ex-1003, ¶¶91-94.

As shown below in annotated FIG. 4, *Haller* discloses “a software architecture 500 for [device 106](#),” (Ex-1005, 7:35-36), that includes a “network service plug-in 406” that enables “enhanced IP based network.” *Id.*, 8:25-27. The plug-ins 406 can “process IP packets going either internally in a LAN 116 or externally to and from a WAN.” *Id.*, 10:45-48.



Haller, FIG. 4 (annotated)

As shown below in annotated FIG. 5, *Haller* also discloses that the plug-in 406 includes an SMS software component plug-in 406h which “enables standard legacy SMS or Instant Messaging over SMS,” and that “SMS 406h is an SMS server for terminals 107 and an SMS termination for device 106. In this way, a protocol will be defined that enables each terminal to send a packet to SMS 406h with a destination device phone number+message text. SMS 406h then send the SMS message to a cellular network.” *Id.*, 13:16-35.

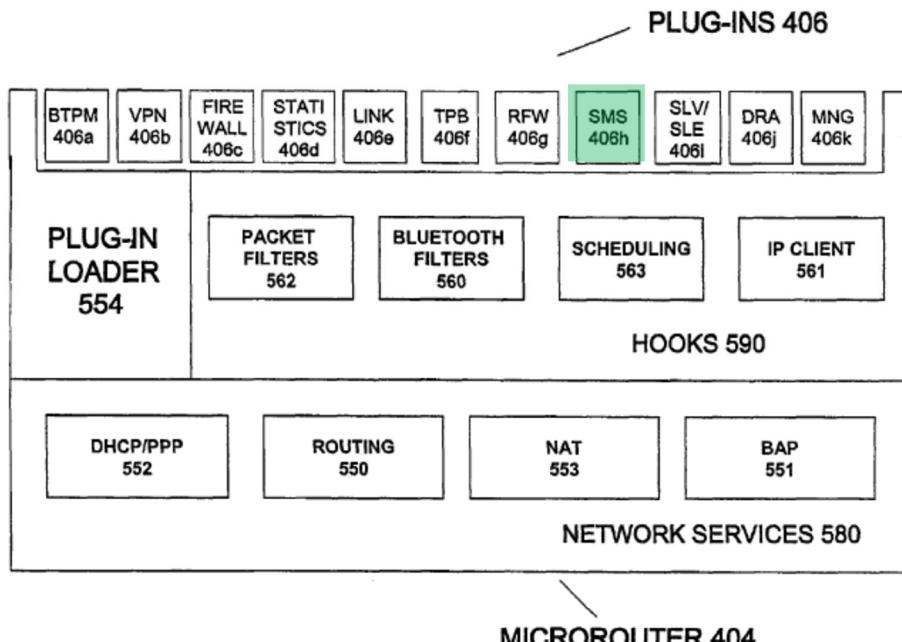


Fig. 5

Haller, FIG. 5 (annotated)

d. [14c] “**a transmitter to transmit the at least one SMS message to the second, remotely located, terminal device through a cellular network connection.**”

A POSITA would understand that the combination of a digital circuit 306, analog circuit 308, transceiver 310, receiver 311, and antenna 312, disclosed by *Haller*, would be equivalent to any defined “transmitter,” as claimed. Ex-1003, ¶95. *Haller* discloses the combination of a digital circuit 306, analog circuit 308, transceiver 310, receiver 311, and antenna 312 that transmits the at least one SMS message to server 101 or 12 (the claimed second, remotely located, terminal device) through a cellular network connection. Ex-1003, ¶¶95-98.

Haller discloses that in device 106 “[c]ellular, such as GSM, signals are transmitted and received using digital circuit 306, analog circuit 308, transceiver 310, receiver 311 and antenna 312. Digital circuit 306 is coupled to bus 305.” Ex-1005, 7:12-15.

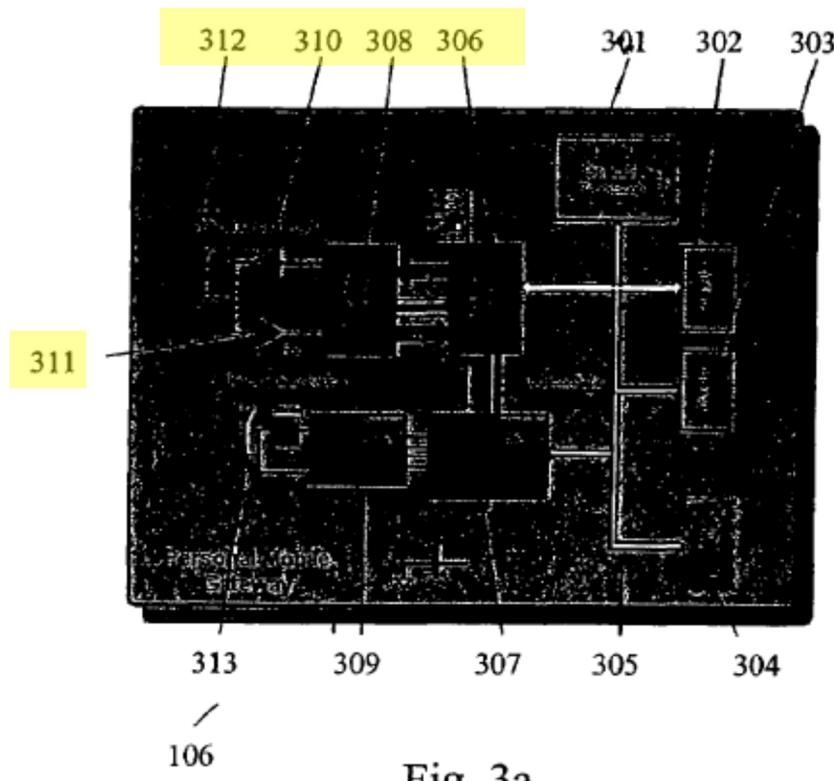


Fig. 3a

Haller, FIG. 3a (annotated)

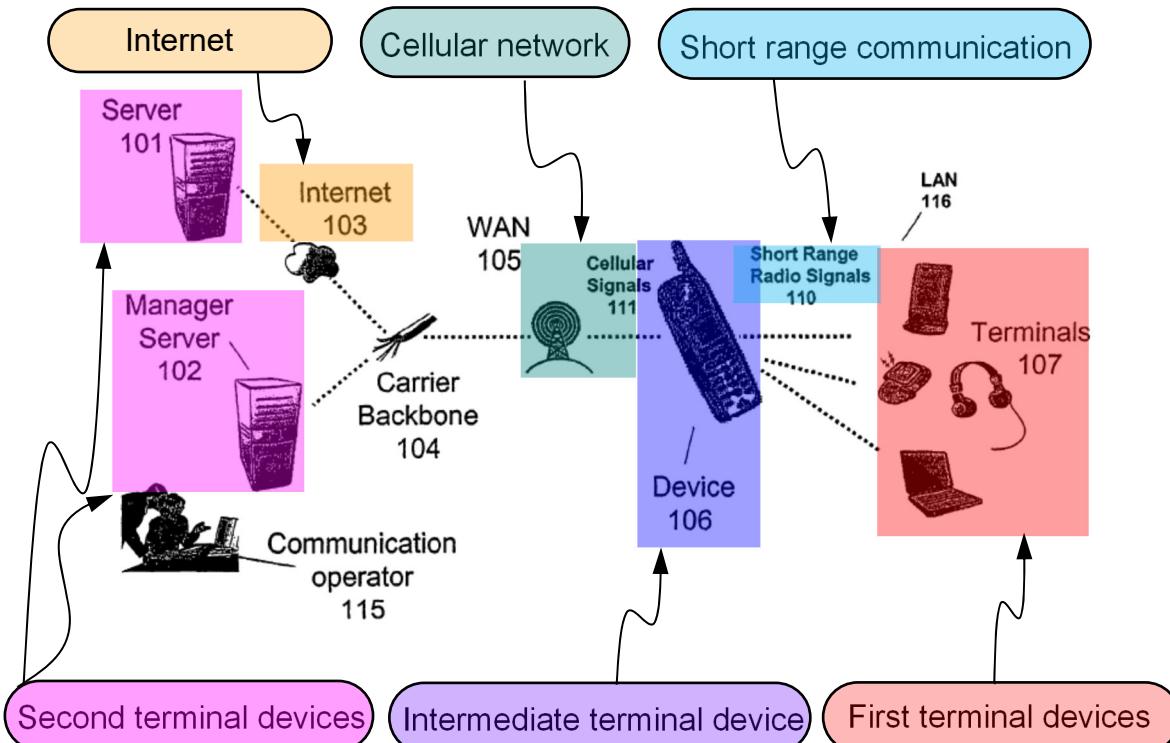
Haller also discloses that device 106 includes SMS software component plug-in 406h that can format data from terminal 107 into an SMS data message and “then send the **SMS message** to a **cellular network**.” *Id.*, 13:16-35. *Haller* further discloses that the data “sent through the **cellular air interface** and the Internet, reaching the **corporate VPN and exchange servers**.” *Id.*, 14:57-59.

Therefore, *Haller* discloses the transmitter to transmit the at least one SMS message to the second, remotely located, terminal device through a cellular network connection.

3. Independent Claim 23

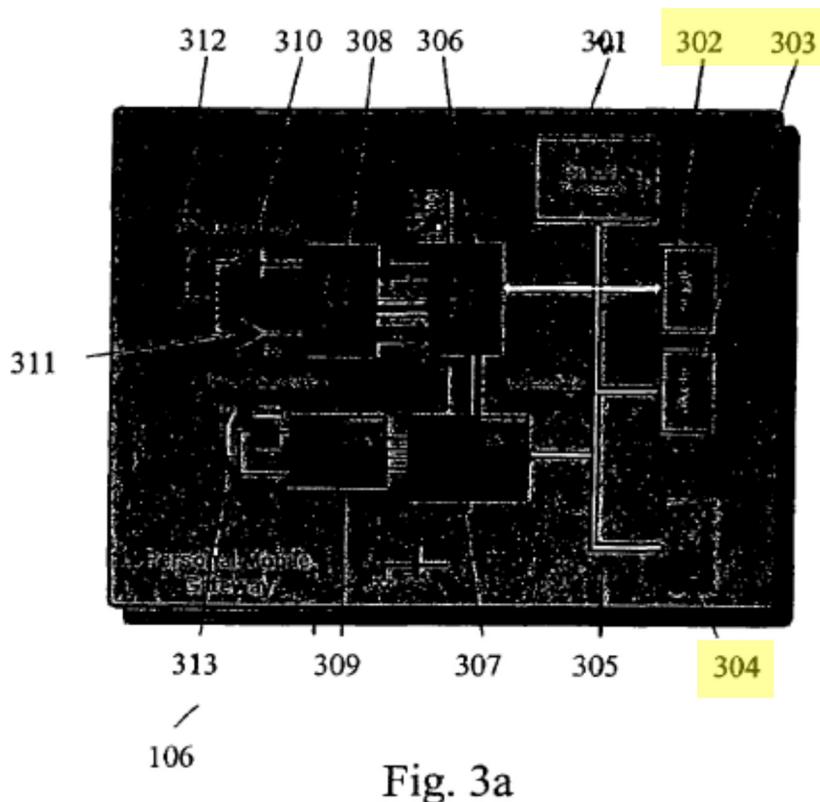
a. [23p] “A program storage device, readable by machine, tangibly embodying a program of instructions executable by machine to perform a method of synchronization between a first terminal device and a second, remotely located, terminal device via an intermediate terminal device, the method comprising:”

Haller discloses memories 302, 303, and 304 (the claimed program storage device), readable by machine, tangibly embodying a program of instructions executable by machine to perform a method of synchronization between terminals 107 (the claimed first terminal device) and server 101 or 102 (the claimed second, remotely located, terminal device) via device 106 (the claimed intermediate terminal device), as shown below.



Haller, FIG. 1 (annotated)

As shown below in annotated FIG. 3a, *Haller* discloses that device 106 includes “both internal and removable memory. In particular, device 106 includes internal FLASH (or Electrically Erasable Programmable Read-Only Memory (“EEPROM”) and static Random Access Memory (“SRAM”)) 302 and 303, respectively. Removable FLASH memory 304 is also used . . . Memories 302, 303, and 304 are coupled to bus 305.” Ex-1005, 6:61-7:1.

*Haller*, FIG. 3a (annotated)

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As shown below in FIG. 4, *Haller* also discloses “a software architecture 500 for device 106.” *Id.*, 7:35-36. “Software 500 is stored in FLASH memory 302.” *Id.*, 7:37-38.

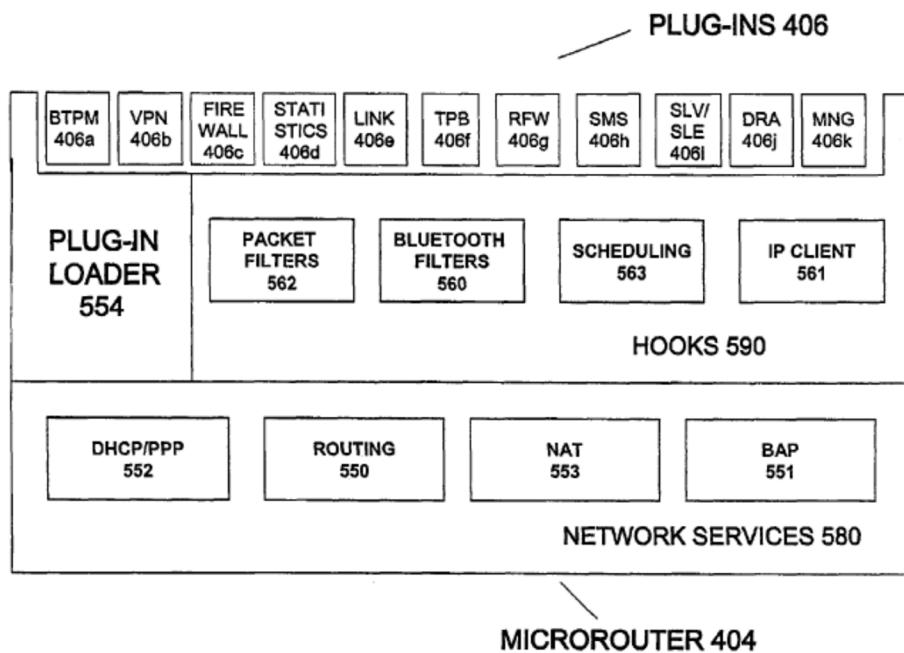


Fig. 5

Haller, FIG. 5

Therefore, *Haller* discloses a program storage device, readable by machine, tangibly embodying a program of instructions executable by machine to perform a method of synchronization between a first terminal device and a second, remotely located, terminal device via an intermediate terminal device. Ex-1003, ¶¶99-102.

- b. [23a] “obtaining, at the first terminal device, data to be synchronized with the second remotely located terminal device;”**

As discussed above in Claim 1, *Haller* discloses obtaining, at the first terminal device, data to be synchronized with the second remotely located terminal device. *See* Section VII.A.1.b.

- c. [23b] “transmitting the data from the first terminal device to the intermediate terminal device through a short-range connection;”**

As discussed above in Claim 1, *Haller* discloses transmitting the data from the first terminal device to the intermediate terminal device through a short-range connection. *See* Section VII.A.1.c.

- d. [23c] “formatting the data to be synchronized into at least one SMS (Short Message Service) message in the intermediate terminal device; and”**

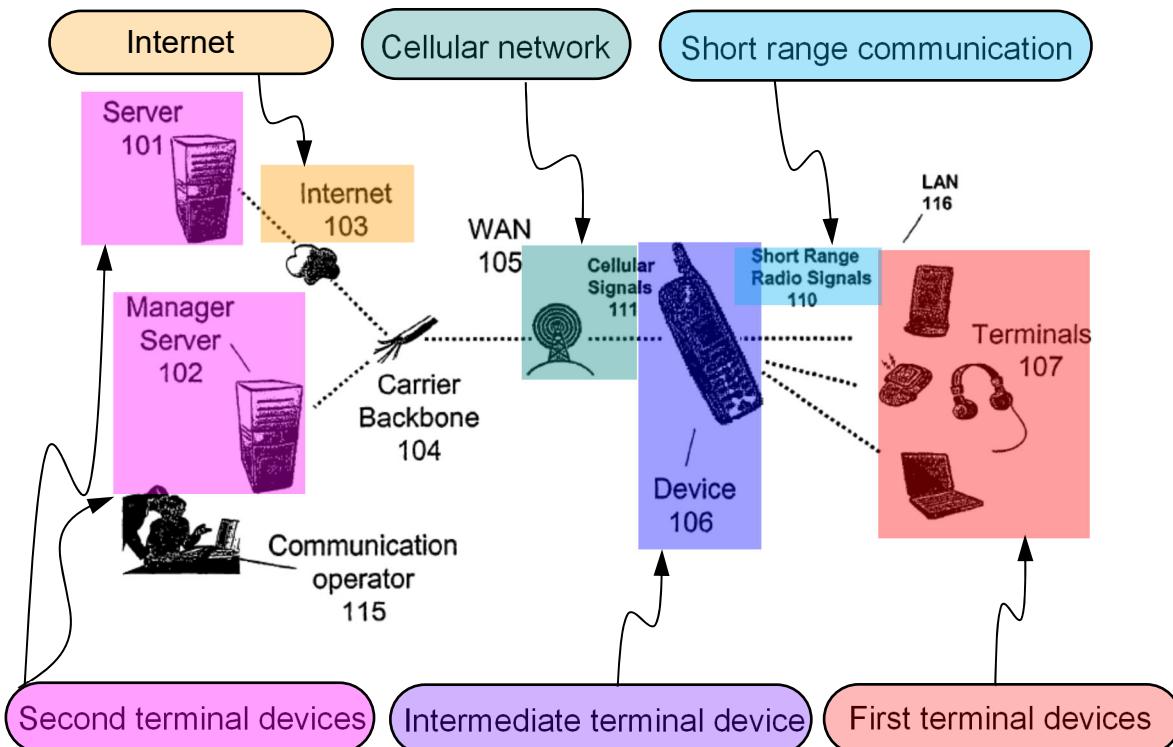
As discussed above in Claim 1, *Haller* discloses formatting the data to be synchronized into at least one SMS (Short Message Service) message in the intermediate terminal device. *See* Section VII.A.1.d.

- e. [23d] “transmitting the at least one SMS message from the intermediate terminal device to the second remote located terminal device through cellular network connection.”**

As discussed above in Claim 1, *Haller* discloses transmitting the at least one SMS message from the intermediate terminal device to the second remote located terminal device through cellular network connection. *See* Section VII.A.1.e.

B. Dependent Claims 3, 10, 11, 12, 20, 21, 25, 32, 33, 34, 38, 39, 43, and 44**1. [Claim 3] “The method of claim 1, wherein the intermediate terminal device comprises a mobile terminal device.”**

As shown below in annotated FIG. 1, *Haller* discloses that device 106 (the claimed intermediate terminal device) comprises a mobile terminal device.

*Haller*, FIG. 1 (annotated)

Haller discloses that “device 106 is a **cellular handset or telephone**.” Ex-1005, 6:16-19. *Haller* also discloses that “WAN 105 is coupled to **device 106**,” and “WAN 105 includes a **cellular network** transmitting and receiving **cellular signals 111**.” *Id.*, 5:52-55.

Therefore, *Haller* discloses that the intermediate terminal device comprises a mobile terminal device.

2. [Claim 10] “The method of claim 1, wherein the data message comprises one of a calendar, a to-do list, personal information, and contact information.”

Haller’s data packets include one of a calendar, a to-do list, personal information, and contact information. Ex-1003, ¶¶110-113.

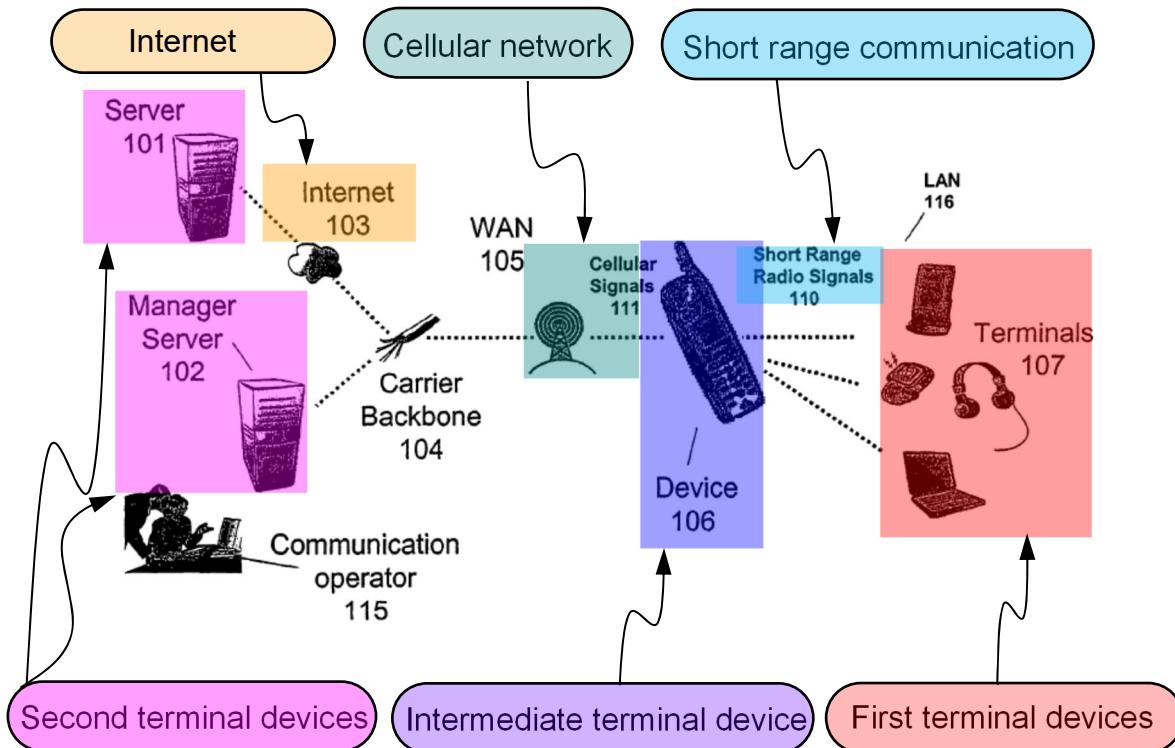
Haller discloses synchronization of the data in PDA with the corporate exchange server. For instance, *Haller* disclose that “a user is a traveling professional who has a **PDA** and needs to **synchronize** it against a **corporate exchange server** while on the road. This synchronization needs to be done securely as the only way to enter the corporate network is via a certified and Information Technology (‘IT’) manager approved VPN.” Ex-1005, 14:26-31.

Because the data of the PDA are synchronized with the corporate server, a POSITA would have understood a corporate exchange server to refer to an MS exchange server, which includes one of a calendar, a to-do list, personal information, and contact information. Ex-1003, ¶112.

Therefore, *Haller* discloses that the data message comprises one of a calendar, a to-do list, personal information, and contact information.

3. [Claim 11] “The method of claim 1, wherein the data message is transferred from the first terminal device to the intermediate terminal device via a short range communication link.”

As shown below in annotated FIG. 1, *Haller* discloses that the data packets are transferred from terminals 107 such as the PDA (the claimed first terminal device) to device 106 (the claimed intermediate terminal device) via a short-range radio signals 110 (the claimed short range communication link).



Haller, FIG. 1 (annotated)

Haller discloses that “terminals 107 are coupled to device 106 by short-range radio signals 110 to form LAN 116,” and that “terminals 107 include a

Bluetooth™ 2.4 GHz transceiver/receiver. Likewise, **device 106** includes a Bluetooth™ 2.4 GHZ transceiver/receiver.” *Ex-1005*, 5:29-47.

Haller also discloses that “the **PDA** connects to the **cellular telephone** via the BAP 551 utilizing **Bluetooth™**,” and that “[t]he **IP packets** travel across the **Bluetooth™** air interface to the **cellular telephone** using a PPP protocol and PPP 552.” *Id.*, 14:40-60.

Therefore, *Haller* discloses that the data message is transferred from the first terminal device to the intermediate terminal device via a short range communication link.

4. [Claim 12] “The method of claim 11, wherein the short range communication link comprises one of an IR (Infrared) or Bluetooth communication link.”

Haller discloses that the short-range radio communication link comprises Bluetooth.

Haller discloses that “**terminals 107** are coupled to **device 106** by **short-range radio signals 110** to form LAN 116,” and that “terminals 107 include a Bluetooth™ 2.4 GHz transceiver/receiver. Likewise, device 106 includes a Bluetooth™ 2.4 GHZ transceiver/receiver.” *Id.*, 5:29-47.

Haller also discloses that “the **PDA** connects to the **cellular telephone** via the BAP 551 utilizing **Bluetooth™**,” and that “[t]he **IP packets** travel across the

Bluetooth™ air interface to the cellular telephone using a PPP protocol and PPP 552.” *Id.*, 14:40-60.

5. **[Claim 20] “The device of claim 14, wherein the data comprises one of a calendar, a to-do list, a personal information, and contact information.”**

As discussed above in Claim 10, *Haller* discloses that the data comprises one of a calendar, a to-do list, a personal information, and contact information. *See* Section VII.B.2.

6. **[Claim 21] “The device of claim 14, wherein the data receiver receives data messages via one of an IR (Infrared) or Bluetooth communication link.”**

As discussed above in Claim 12, *Haller* discloses that the data receiver receives data messages via one of an IR (Infrared) or Bluetooth communication link. *See* Section VII.B.4.

7. **[Claim 25] “The device of claim 23, wherein the intermediate terminal device comprises a mobile terminal device.”**

As discussed above in Claim 3, *Haller* discloses that the intermediate terminal device comprises a mobile terminal device. *See* Section VII.B.1.

8. **[Claim 32] “The device of claim 23, wherein the data message comprises one of a calendar, a to-do list, personal information, and contact information.”**

As discussed above in Claim 10, *Haller* discloses that the data message comprises one of a calendar, a to-do list, a personal information, and contact information. *See* Section VII.B.2.

9. **[Claim 33] “wherein the data message is transferred from the first terminal device to the intermediate terminal device via a short range communication link.”**

As discussed above in Claim 11, *Haller* discloses that the data message is transferred from the first terminal device to the intermediate terminal device via a short range communication link. *See* Section VII.B.3.

10. **[Claim 34] “The device of claim 33, wherein the short range communication link comprises one of an IR (Infrared) or Bluetooth communication link.”**

As discussed above in Claim 12, *Haller* discloses that the short range communication link comprises one of an IR (Infrared) or Bluetooth communication link. *See* Section VII.B.4.

11. **[Claim 38] “The method of claim 36, wherein the data is transmitted from the first terminal device to the intermediate terminal device via a short range communication link.”**

As discussed above in Claim 11, *Haller* discloses that the data is transmitted from the first terminal device to the intermediate terminal device via a short range communication link. *See* Section VII.B.3.

12. [Claim 39] “The method of claim 38, wherein the short range communication link comprises one of either an IR (Infrared) or Bluetooth communication link.”

As discussed above in Claim 12, *Haller* discloses that the short range communication link comprises one of either an IR (Infrared) or Bluetooth communication link. *See* Section VII.B.4.

13. [Claim 43] “The device of claim 41, wherein the data is transmitted from the first terminal device to the intermediate terminal device via a short range communication link.”

As discussed above in Claim 11, *Haller* discloses that the data is transmitted from the first terminal device to the intermediate terminal device via a short range communication link. *See* Section VII.B.3.

14. [Claim 44] “The device of claim 43, wherein the short range communication link comprises one of either an IR (Infrared) or Bluetooth communication link.”

As discussed above in Claim 12, *Haller* discloses that the short range communication link comprises one of either an IR (Infrared) or Bluetooth communication link. *See* Section VII.B.4.

VIII. GROUND 2: *HALLER* AND *YU* RENDER OBVIOUS CLAIMS 4, 5, 13, 22, 26, 27, 35, 36, 37, 40, 41, 42, AND 45

A. A POSITA Would Have Combined *Haller* and *Yu*

Both *Haller* and *Yu* are directed to data transmission between devices. Ex-1005, Ex-1006. Ex-1003, ¶¶131-175. Each reference includes similar components

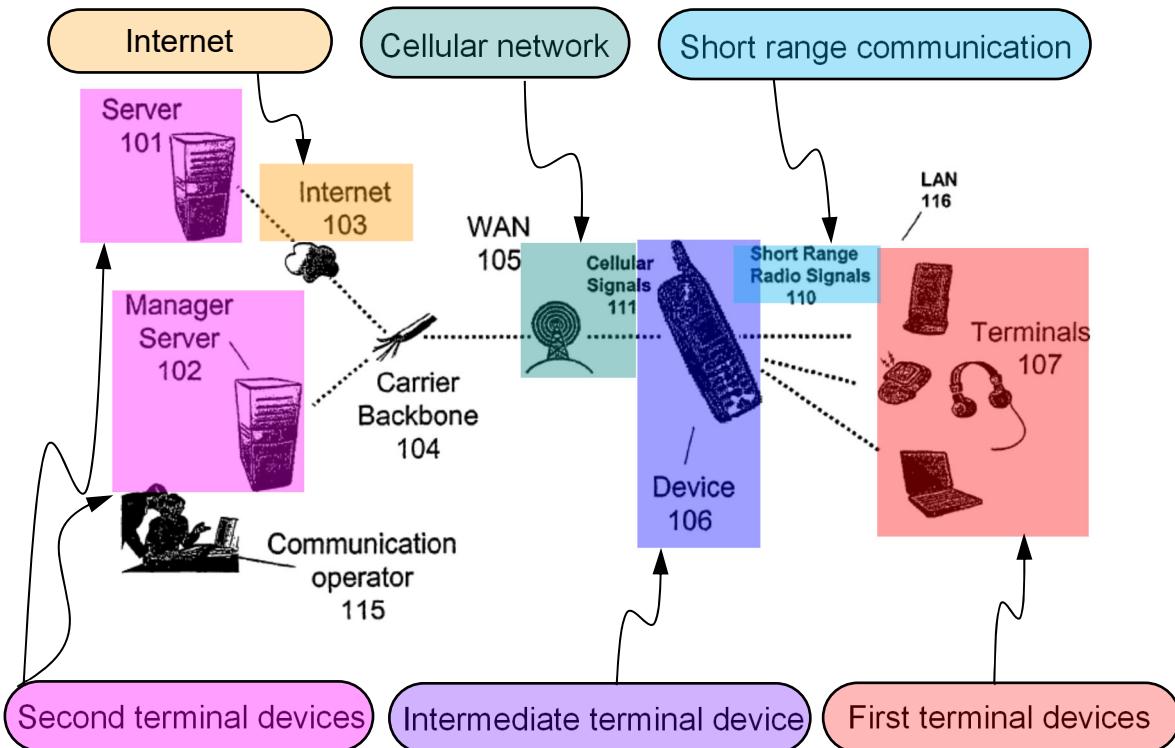
with similar functions, for instance, both *Haller* and *Singhal* disclose a computer (or PDA) connected to a wireless cellular phone with a short range connection, and a remotely located server connected to the wireless cellular phone via cellular network and Internet connection. Ex-1005, Ex-1006. Ex-1003, ¶131. Each reference discloses transmitting data using an SMS message. Ex-1005, Ex-1006. Ex-1003, ¶131. Thus, a POSITA would have sought to combine *Haller* with *Yu* due to the compatible components and similar functions, as discussed below. *Id.*

B. Independent Claims 36 and 41

1. Independent Claim 36

- a. [36p] “A method of data synchronization between a first terminal device and a, remote located, second terminal device via an intermediate terminal device, the method comprising:”

As shown below in annotated FIG. 1, and discussed above in Claim 1, *Haller* discloses a method for data synchronization between terminals 7 (the claimed first terminal device) and server 101 or 102 (the claimed second terminal device) via device 106 (the claimed intermediate terminal). *See VII.A.1.a.*

*Haller*, FIG. 1 (annotated)

- b. [36a] “obtaining, at the first terminal device, data to be synchronized with the second remotely located terminal device;”**

As discussed above in Claim 1, *Haller* discloses obtaining, at the first terminal device, data to be synchronized with the second remotely located terminal device. *See VII.A.1.b. Ex-1003, ¶133.*

- c. [36b] “transmitting the data from the first terminal device to the intermediate terminal device through a short-range connection;”**

As discussed above in Claim 1, *Haller* discloses transmitting the data from the first terminal device to the intermediate terminal device through a short-range connection. *See VII.A.1.c. Ex-1003, ¶134.*

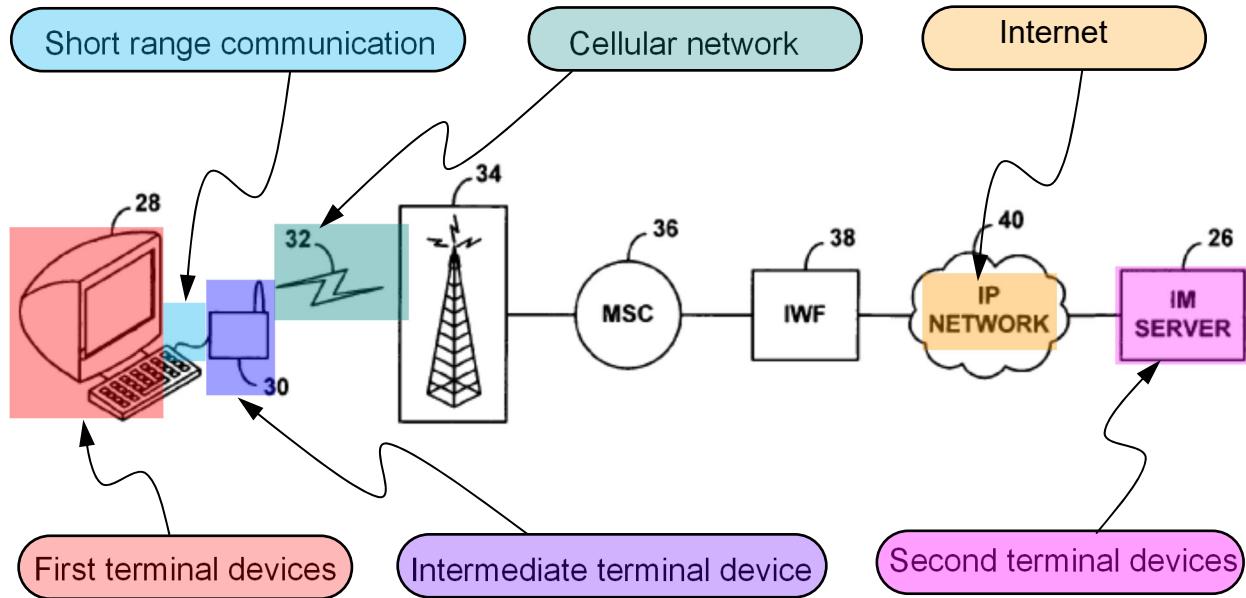
- d. [36c] “formatting the data into at least one SMS (Short Message Service) message in the intermediate terminal device;”

As discussed above in Claim 1, *Haller* discloses formatting the data into at least one SMS (Short Message Service) message in the intermediate terminal device. *See* VII.A.1.d. Ex-1003, ¶135.

- e. [36d] “transmitting the least one SMS message from the intermediate terminal device to a message center; and”

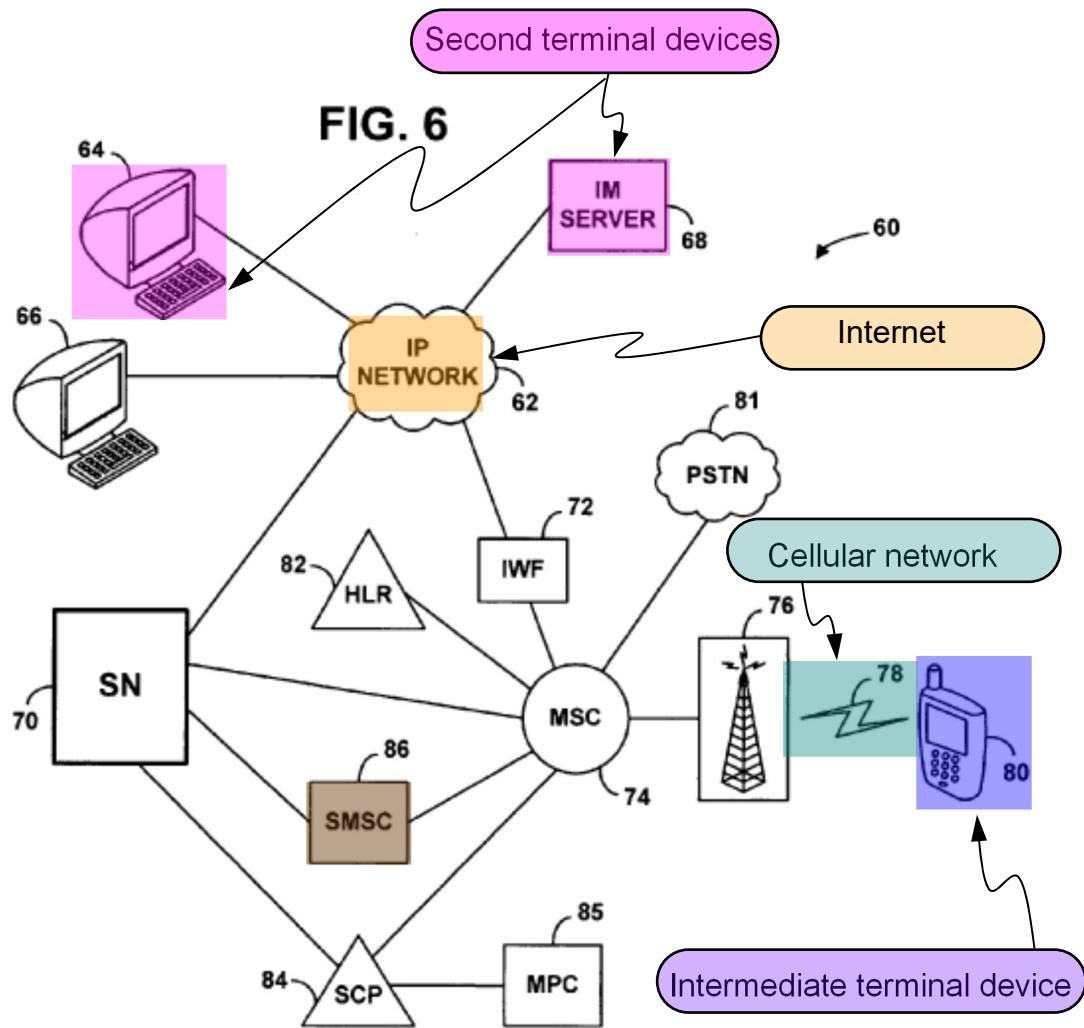
As discussed above, *Haller* discloses transmitting the SMS message from device 106 (the claimed intermediate terminal device) to server 101 or 102. *See* VII.A.1.e. Ex-1003, ¶136.

In the event that Patent Owner argues that *Haller* does not explicitly disclose transmitting the SMS message via an SMS message center, *Yu* expressly discloses it. As shown below in annotated FIG. 2, *Yu* discloses a system in which “a computer 28 is connected with a cellular modem 30 [that] communicates over an air interface 32 with a cellular base station controller (BSC) 34, which is in turn coupled with a mobile switching center (MSC) 36,” (Ex-1006, 3:7-12), and “MSC 36 is in turn coupled with an “interworking function” (IWF) 38,” and “IWF 38 is coupled to an IP network 40, to which IM server 26 is also coupled.” *Id.*, 3:15-24. In the system, computer 28 “can interact with IM server 26 so as to facilitate instant messaging communications with a user at computer 28.” *Id.*, 3:28-30.



Yu, FIG. 2 (annotated)

Yu shows the details of the instant messaging between cellular modem 30 and IM server 26 in FIG. 6. As shown below in annotated FIG. 6, Yu discloses that a mobile station MS 80, such as cellular modem 30 in FIG. 2, “subscribes to SMS service and is therefore capable of **sending** and **receiving SMS messages**.” *Id.*, 11:45-48. Ex-1003, ¶138.



Yu, FIG. 6 (annotated)

Yu further elaborates the receiving process. For instance, Yu discloses that IM client in IM server 68 “sends an IM message to the user at MS 80, the message will go to SN 70.” Ex-1006, 13:55-58. Upon receipt of the message, “SN 70 will then convert the message into an **SMS message** and forward the SMS message to MS 80.” *Id.*, 14:19-21. If MS 80 is not available to engage in instant messaging, “SMSC [short message service center] 86 can serve a store and forward function

for **SMS messaging** as defined by IS-41,” and “then route the **SMS message** to MSC 74, and MSC 74 could then deliver the SMS message to **MS 80** for display to a user.” *Id.*, 12:25-36. Ex-1003, ¶139.

Although *Yu* elaborates the receiving process (**MS 80** receives the SMS message from **IM server 68**), the operation of transmitting the SMS message via **SMSC [short message service center] 86** similarly applies to the sending process (**MS 80** sends the SMS message to **IM server 68**), because *Yu* states that the system is “capable of **sending and receiving SMS messages**.” Ex-1006, 11:45-48. In the sending process, the SMS message is transmitted from **MS 80** to **SMSC [short message service center] 86**. Ex-1003, ¶140.

Yu also discloses that “[t]o provide SMS service, a wireless network may include a short message service center (“**SMSC**”) (sometimes also referred to simply as a message center (“**MC**”)), which is a functional entity that **stores and forwards SMS messages**. The store and forward function provides a method of sending short messages to their destination recipient or storing those messages if the recipient is unavailable to receive them. This store and forward function can generally be distinguished from the real-time delivery requirements of voice calls, although SMS messages may be delivered in real time.” *Id.*, 4:26-36. Ex-1003, ¶141.

As discussed above, *see* VII.A.1.e, *Haller* discloses sending an SMS message to a remote server through a cellular network, and *Yu* just fills a gap in the details of how a POSITA would have understood the SMS solution in *Haller* to work. Ex-1003, ¶142. For instance, *Yu* discloses sending an SMS message via a short message service center which can store and forward the SMS message to a recipient if the recipient is unavailable to receive them. A POSITA would have recognized that such routing by the short message service center would provide flexibility in message transmission and also prevent data packet loss. Ex-1003, ¶142. The advantages provided by the short message service center of *Yu* would have motivated a POSITA to modify *Haller* so that the SMS message of *Haller* is sent to the short message service center first, as taught by *Yu*, so that the short message service center can store and then forward the message if the remote server is unavailable to receive the message, as described by *Yu*. Ex-1003, ¶142; Ex-1006, 4:26-36.

- f. [36e] “transmitting the at least one message from the message center to the second remote located terminal device through a cellular network connection.”**

The combination of *Haller* and *Yu* discloses transmitting the at least one message from the message center to the second remote located terminal device through a cellular network connection. Ex-1003, ¶143.

As discussed above, a POSITA would have been motivated to modify *Haller* so that *Haller*'s SMS message is sent from device 106 (the claimed intermediate device) to a short message service center, as taught by *Yu*. Ex-1003, ¶144. A POSITA would have been also motivated to modify *Haller* to send the SMS message from the short message service center to server 101 or 102, because *Haller* is intended to send the SMS message to server 101 or 102. In other words, in *Haller*, the server 101 and 102 is the destination of the SMS message. This is further supported by the fact that *Yu* discloses that SMSC 86 routes the SMS message to the destination. Ex-1003, ¶144.

Also, as discussed above, a POSITA would have been motivated to modify *Haller* based on the teachings of *Yu* because of the advantages provided by utilizing the short message service center. Ex-1003, ¶145.

Therefore, the combination of *Haller* and *Yu* discloses transmitting the at least one message from the message center to the second remote located terminal device through a cellular network connection. Ex-1003, ¶146.

2. Independent Claim 41

- a. [41p] “A program storage device, readable by machine, tangibly embodying a program of instructions executable by machine to perform a method of data synchronization between first and second remote locate terminal devices via an intermediate terminal device, the method comprising:”

As discussed above in Claim 23, *Haller* discloses a program storage device, readable by machine, tangibly embodying a program of instructions executable by machine to perform a method of data synchronization between first and second remote locate terminal devices via an intermediate terminal device. *See* VII.A.3.a. Ex-1003, ¶147.

- b. [41a] “obtaining, at the first terminal device, data to be synchronized with the second remotely located terminal device;”

As discussed above in Claim 1, *Haller* discloses obtaining, at the first terminal device, data to be synchronized with the second remotely located terminal device. *See* VII.A.1.b. Ex-1003, ¶148.

- c. [41b] “transmitting the data from the first terminal device to the intermediate terminal device through short-range connection;”

As discussed above in Claim 1, *Haller* discloses transmitting the data from the first terminal device to the intermediate terminal device through short-range connection. *See* VII.A.1.c. Ex-1003, ¶149.

- d. [41c] “formatting the data into at least one SMS (Short Message Service) message in the intermediate terminal device;”**

As discussed above in Claim 1, *Haller* discloses formatting the data into at least one SMS (Short Message Service) message in the intermediate terminal device. *See* VII.A.1.d. Ex-1003, ¶150.

- e. [41d] “transmitting the least one message from the intermediate terminal device to a message center; and”**

As discussed above in Claim 36, the combination of *Haller* and *Yu* discloses transmitting the least one message from the intermediate terminal device to a message center. *See* VIII.B.1.e. Ex-1003, ¶151.

- f. [41e] “transmitting the at least one message from the message center to the second remotely located terminal device through a cellular or network connection.”**

As discussed above in Claim 36, the combination of *Haller* and *Yu* discloses transmitting the at least one message from the message center to the second remotely located terminal device through a cellular or network connection. *See* VIII.B.1.f. Ex-1003, ¶152.

C. Dependent Claims 4, 5, 13, 22, 26, 27, 35, 37, 40, 42, and 45

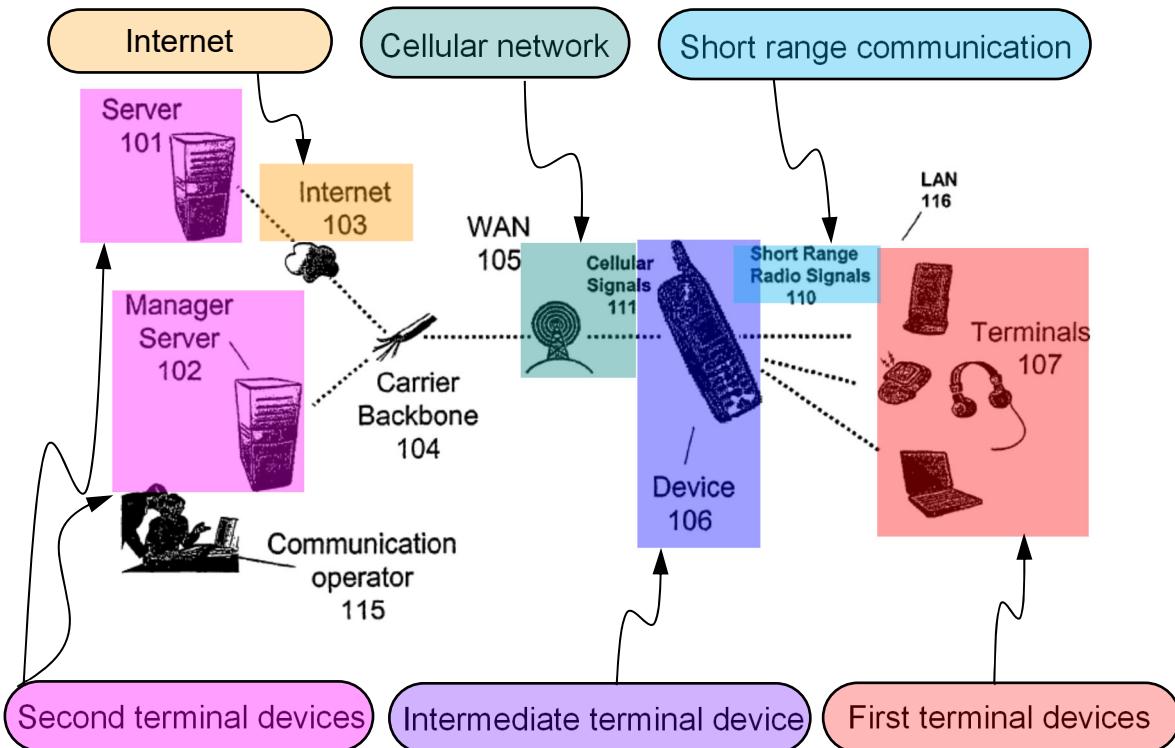
- 1. [Claim 4] “The method of claim 3, wherein the at least one SMS message is transmitted via a mobile network including an SMS message center.”**

As discussed above in Claim 36, the combination of *Haller* and *Yu* discloses that the at least one SMS message is transmitted via a mobile network including an SMS message center. *See* VIII.B.1.e and VIII.B.1.f; *see also* Ex-1003, ¶153.

- 2. [Claim 5] “The method of claim 4, wherein the at least one SMS message is transmitted from the intermediate terminal device to the second, remotely located, terminal device via the mobile network and a gateway and the Internet.”**

Each of *Haller* and *Yu* disclose this claim element. Ex-1003, ¶154.

As shown below in annotated FIG. 1, *Haller* discloses that the at least one SMS message is transmitted from device 106 (the claimed intermediate terminal device) to server 101 (the claimed the second, remotely located, terminal device) via the WAN 105 including the cellar signals 111 (the claimed mobile network) and carrier backbone 104 (the claimed gateway) and Internet 103 (the claimed Internet). Ex-1003, ¶155.

*Haller*, FIG. 1 (annotated)

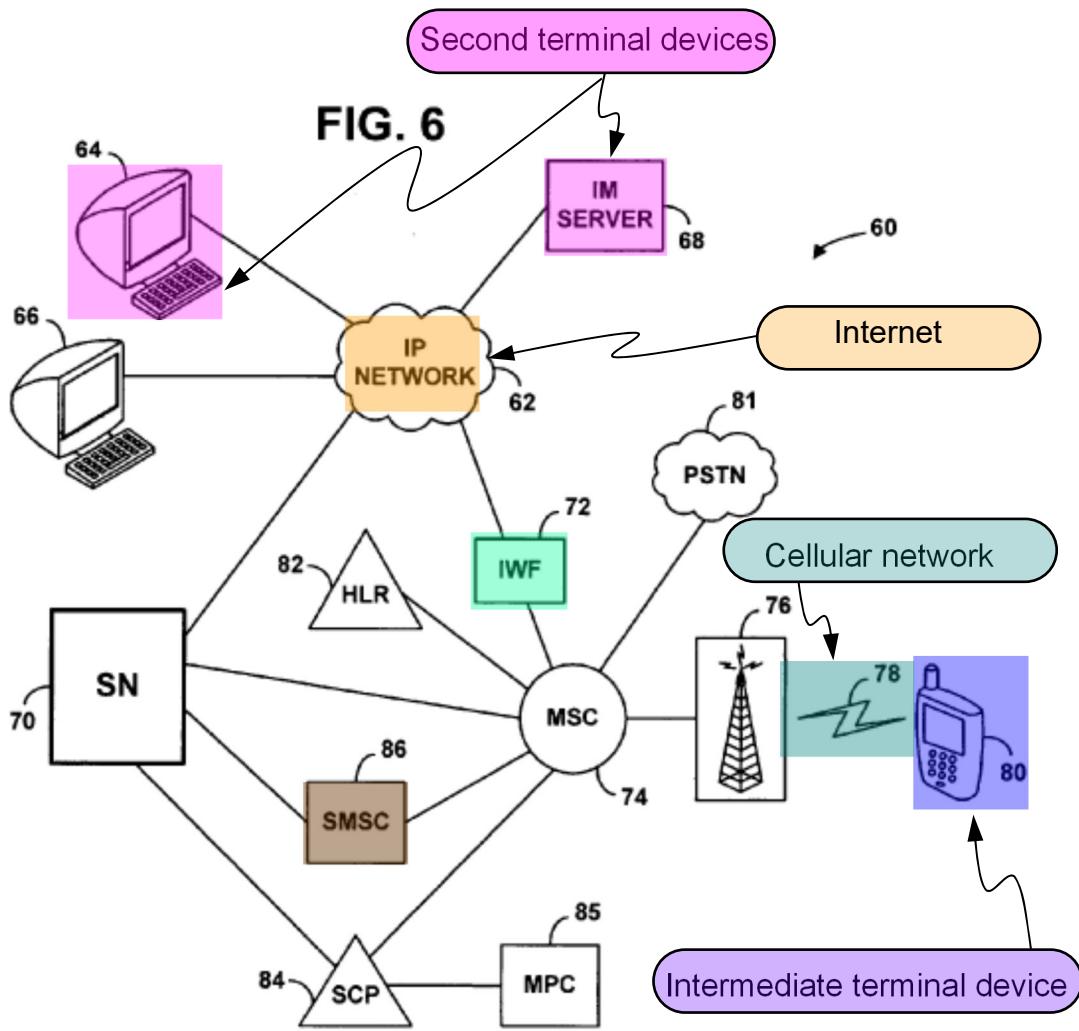
Haller discloses that [Device 106](#) is coupled to a [WAN 105](#) and the “[WAN 105](#) is coupled to a wireless carrier internal network or **carrier backbone 104**,” and the “carrier backbone 104 is coupled to [Internet 103](#). [Server 101](#) is coupled to [Internet 103](#).” Ex-1005, 6:16-26.

Because the carrier backbone 104 of *Haller* provides interoperability of different networks that require different protocols and allows data to flow from cellular network to Internet network, the carrier backbone 104 of *Haller* is the claimed gateway. Ex-1003, ¶157.

In addition, *Yu* explicitly discloses the claimed “gateway.” For instance, *Yu* discloses that “the cellular modem 30 communicates over an air interface 32 with a

cellular base station controller (BSC) 34, which is in turn coupled with a mobile switching center (MSC) 36. MSC 36 is, in large part, the wireless equivalent of a landline telecommunications switch (often referred to as a signal switching point or SSP). MSC 36 is in turn coupled with an “interworking function” (IWF) 38, which commonly serves as a **wireless/IP gateway** to transparently pass wireless protocol signals (e.g., CDMA, TDMA, etc.) from MSC 36 onto an IP network and vice versa.” Ex-1006, 3:9-19.

As shown below in annotated FIG. 6, *Yu* also discloses that “**IWF** [interworking function] 72 serves to communicatively couple IP network 62 with a wireless telecommunications network, to convert between circuit-switched voice and/or data communications on the wireless network side and packet sequences appropriate for transport over network 62 on the other side.” *Id.*, 11:6-10.



Yu, FIG. 6 (annotated)

A POSITA would have been motivated to implement IWF 72 (the wireless/IP gateway) of *Yu* in *Haller*'s system because *Haller* requires interoperability between a cellular network and an Internet network for data flow, and *Yu* teaches that IWF 72 provides the interoperability required by *Haller*. Ex-1003, ¶160. Therefore, *Haller* and *Yu* disclose that the at least one SMS message is

transmitted from the intermediate terminal device to the second, remotely located, terminal device via the mobile network and a gateway and the Internet. *Id.*

3. [Claim 13] “The method of claim 1, further comprising transmitting at least one other SMS message from the second terminal device to the first terminal device via the intermediate terminal device.”

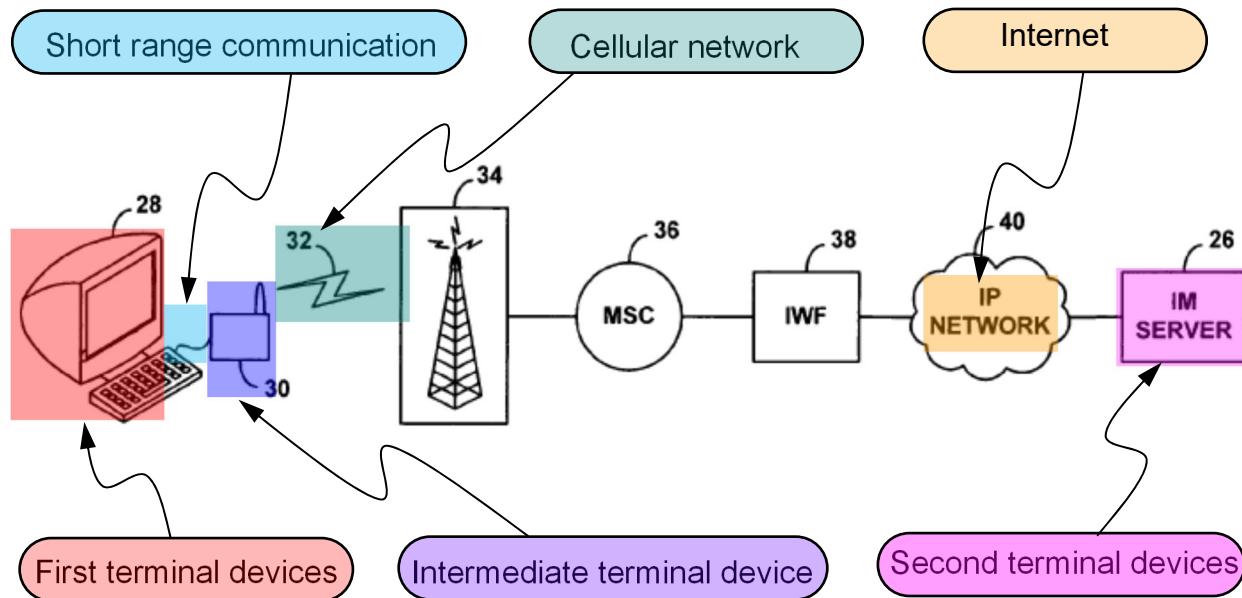
The combination of *Haller* and *Yu* teaches this claim element. *Id.*, ¶161.

Haller discloses that device 106 (the claimed intermediate terminal device) receives an SMS message and transmits the received SMS message to terminals 107 (the claimed first terminal device). For instance, *Haller* discloses that “SMS 406h [of device 106] also serves as an **SMS receiver** in an embodiment of the present invention. A **terminal** can inquire SMS 406h for received SMS messages and fetch those messages.” Ex-1005, 13:30-32.

In the event that Patent Owner argues that *Haller* does not expressly disclose that the SMS message received by device 106 is transmitted from server 101 or 102, *Yu* explicitly discloses it. Ex-1003, ¶163.

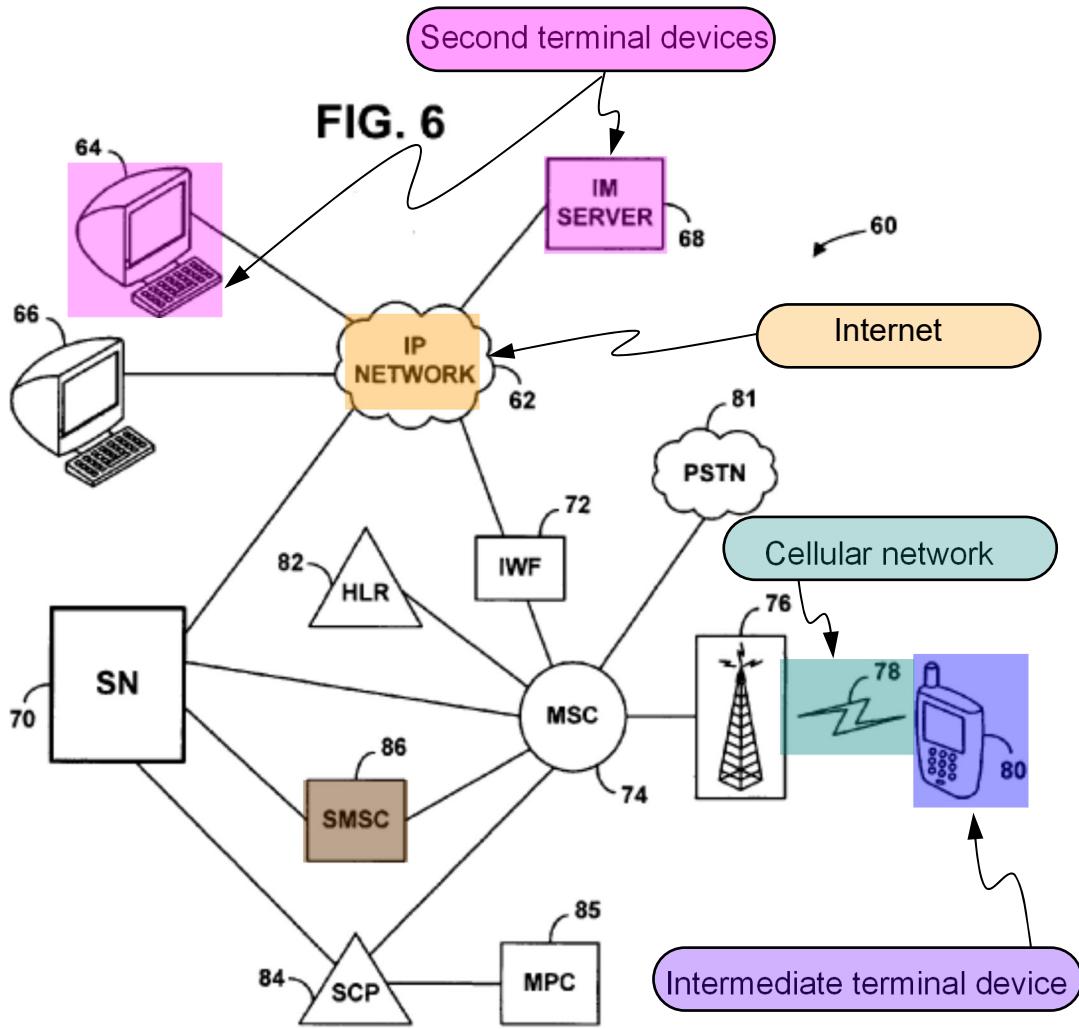
As shown below in annotated FIG. 2, *Yu* discloses a system in which “a **computer 28** is connected with a **cellular modem 30**. In accordance with conventional **cellular radio telecommunications** practice, the cellular modem 30 communicates over an air interface 32 with a cellular base station controller (BSC) 34, which is in turn coupled with a mobile switching center (MSC) 36,” (Ex-1006,

3:7-12), and “MSC 36 is in turn coupled with an “interworking function” (IWF) 38,” and “IWF 38 is coupled to an IP network 40, to which IM server 26 is also coupled,” (*Id.*, 3:15-24), so that computer 28 “can interact with IM server 26 so as to facilitate instant messaging communications with a user at computer 28.” *Id.*, 3:28-30.



Yu, FIG. 2 (annotated)

Yu shows the details of the instant messaging between cellular modem 30 and IM server 26 in FIG. 6. As shown below in annotated FIG. 6, *Yu* discloses that a mobile station MS 80, such as cellular modem 30 in FIG. 2, “subscribes to SMS service and is therefore capable of sending and receiving SMS messages.” *Id.*, 11:45-48.



Yu, FIG. 6 (annotated)

Yu further describes the receiving process in which MS 80 receives an SMS message from IM server 68 (such as the IM server 26 in FIG. 2). For instance, *Yu* discloses that IM client in IM server 68 “sends an IM message to the user at MS 80, the message will go to SN 70.” *Id.*, 13:55-58. Upon receipt of the message, “SN 70 will then convert the message into an SMS message and forward the SMS message to [MS 80](#).” *Id.*, 14:19-21. If MS 80 is not available to engage in instant

messaging, “**SMSC 86** can serve a store and forward function for **SMS messaging** as defined by IS-41,” and “then route the **SMS message** to MSC 74, and MSC 74 could then deliver the SMS message to **MS 80** for display to a user.” *Id.*, 12:25-36.

Because *Haller* discloses that the wireless device 106 receives SMS messages and transmits the received SMS messages to terminals 107, a POSITA would have understood that *Haller*’s device 106 receives the SMS messages from the remotely located server 101, as taught by *Yu*. Ex-1003, ¶167. Both *Haller* and *Yu* use the same protocol between the intermediate terminal device and the remote, second terminal device. Each of *Haller* and *Yu* uses the combination cellular network and Internet, and thus, the techniques of receiving SMS messages as taught by *Yu* can be intactly applied to *Haller*’s system. *Id.* The advantages of receiving data from the remote server are obvious to a POSITA. *Id.* For example, by doing so, the “traveling professional who has a PDA” as described in *Haller* can promptly receive work-related data from the “corporate exchange server while on the road,” thereby ensuring the work-related data in his PDA are consistent and up-to-date. *Id.*; *see also* Ex-1005, 15:26-28.

4. [Claim 22] “The method of claim 14, further comprising a receiver to receive at least one other SMS message from the another terminal device and a data message transmitter to transmit the at least one other SMS message to the first terminal device.”

Claim 14, from which claim 22 depends, does not recite the “another terminal device” and the “at least one other SMS message.” Nevertheless, for the purpose of this Petition and as discussed above in Claim 13, the combination of *Haller* and *Yu* teach this element—as well as the additional elements for claim 22. For instance, *Haller* discloses claim 14, from which claim 22 depends. *See* Section VII.A.2. And, the combination of *Haller* and *Yu* further teach the additional elements herein. For instance, *Haller* and *Yu* disclose receivers to receive at least one other SMS message from another terminal device and a data message transmitter to transmit the at least one other SMS message to the first terminal device. *See* VIII.C.3. Ex-1003, ¶168.

5. [Claim 26] “The device of claim 25, wherein the at least one SMS message is transmitted via a mobile network including an SMS message center.”

As discussed above in Claim 4, the combination of *Haller* and *Yu* discloses that the at least one SMS message is transmitted via a mobile network including an SMS message center. *See* Section VIII.C.1. Ex-1003, ¶169.

6. **[Claim 27] “The device of claim 26, wherein the at least one SMS message is transmitted from the intermediate terminal device to the second remotely located terminal device via the mobile network and a gateway and the Internet.”**

As discussed above in Claim 5, the combination of *Haller* and *Yu* discloses that the at least one SMS message is transmitted from the intermediate terminal device to the second remotely located terminal device via the mobile network and a gateway and the Internet. *See* Section VIII.C.2. Ex-1003, ¶170.

7. **[Claim 35] “The device of claim 23, further comprising transmitting at least one other SMS message from the second terminal device to the first terminal device via the intermediate terminal device.”**

As discussed above in Claim 13, the combination of *Haller* and *Yu* discloses transmitting at least one other SMS message from the second terminal device to the first terminal device via the intermediate terminal device. *See* Section VIII.C.3. Ex-1003, ¶171.

8. **[Claim 37] “The method of claim 36, wherein the message center comprises an SMS message center.”**

As discussed above in Claim 36, the combination of *Haller* and *Yu* discloses that the message center comprises an SMS message center. *See* Sections VIII.B.1.e and VIII.B.1.f. Ex-1003, ¶172.

9. [Claim 40] “The method of claim 31, further comprising transmitting other data from the second terminal device to the first terminal device via the intermediate terminal device.”

As discussed above in Claim 13, the combination of *Haller* and *Yu* discloses transmitting other data from the second terminal device to the first terminal device via the intermediate terminal device. *See* Section VIII.C.3. Ex-1003, ¶173.

10. [Claim 42] “The device of claim 41, wherein the message center comprises an SMS message center.”

As discussed above in Claim 36, the combination of *Haller* and *Yu* discloses that the message center comprises an SMS message center. *See* Sections VIII.B.1.e and VIII.B.1.f. Ex-1003, ¶174.

11. [Claim 45] “The device of claim 41, further comprising transmitting other data from the second terminal device to the first terminal device via the intermediate terminal device.”

As discussed above in Claim 13, the combination of *Haller* and *Yu* discloses transmitting other data from the second terminal device to the first terminal device via the intermediate terminal device. *See* Section VIII.C.3. Ex-1003, ¶175.

IX. GROUND 3: *HALLER* AND *SINGHAL* RENDER OBVIOUS CLAIMS 2, 6, 7, 8, 15, 16, 17, 18, 24, 28, 29, AND 30

1. A POSITA Would Have Combined *Haller* and *Singhal*

First, both *Haller* and *Singhal* are directed to data synchronization. Ex-1005, Ex-1007, Ex-1003, ¶¶176-200. Each reference includes similar components with

similar functions, for instance, both *Haller* and *Singhal* disclose synchronizing data between a wireless device and a remote device. Ex-1003, ¶176.

In addition, *Singhal* discloses specific synchronization protocols such as SyncML. Ex-1003, ¶177. Thus, a POSITA would have sought to combine *Haller* with *Singhal* by utilizing the specific synchronization protocols disclosed by *Singhal* in *Haller*'s system. *Id.*

2. [Claim 2] “The method of claim 1, wherein formatting the data message comprises formatting the data in a SyncML format.”

As discussed above, *Haller* discloses formatting the data message for data synchronization. *See* Section VII.A.1.d. And SyncML is a well-known format for data synchronization, as evidenced by *Singhal*. *Id.*, ¶178.

In the event that Patent Owner argues that *Haller* does not explicitly disclose SyncML format, *Singhal* discloses it. Ex-1003, ¶179. For instance, *Singhal* discloses that “a synchronization protocol proxy may be included, which may be used to synchronize data stored locally on a user's WID with data stored elsewhere (such as on the user's desktop PC). An example synchronization protocol is “SyncML” which is being developed by The SyncML Initiative to seamlessly synchronize wireless and wireline data and devices. (*See* <http://www.syncml.org> for more information on SyncML).” Ex-1007, 6:9-16.

Haller is directed to data synchronization between different devices, and *Singhal* teaches that SyncML format and the advantage of the SyncML (e.g., “seamlessly synchronize”). Also, it is well-known in the art that SyncML is one of the standard formats used in data synchronization. Therefore, a POSITA would have been motivated to format *Haller*’s data to be synchronized using SyncML, as taught by *Singhal*. Ex-1003, ¶180. By doing so, *Haller*’s data can be seamlessly synchronized between different devices, as described by *Singhal*. Ex-1007, 6:9-16.

3. [Claim 6] “The method of claim 1, wherein the at least one SMS message comprises a compressed SMS message.”

As discussed above, *Haller* discloses formatting the data to be synchronized into an SMS message. *See* Section VII.A.1.d. And compressing data is a well-known technique in the art. Ex-1003, ¶181.

In the event that Patent Owner argues that *Haller* does not explicitly disclose a compressed SMS message, *Singhal* discloses it. Ex-1003, ¶182. For instance, *Singhal* discloses that “auxiliary software may be provided to provide enhanced authentication, encryption, **compression**, or similar functions that augment the transmission of data described herein.” Ex-1007, 5:29-32.

As discussed above, *Haller* discloses formatting data to be synchronized into the SMS format and transmitting the SMS message from device 6 to a remote server through a cellular network. *See* Section VII.A.1.d. Ex-1003, ¶183. And

Singhal discloses compressing data in order to augment the transmission of the data. Therefore, a POSITA would have been motivated to apply the teachings of *Singhal* to *Haller* to compress *Haller*'s SMS message to generate a compressed SMS message. Ex-1003, ¶183. By doing so, the transmission of the SMS message from through the cellular network in *Haller* would be augmented, as described by *Singhal*, (Ex-1007, 5:29-32), so that the data can be transmitted in less messages. Also, compressing data before transmitting the data with radio signal is a standard way of operation because data compression provides enhanced transmission capacity and confidentiality. Ex-1003, ¶183.

4. **[Claim 7] “The method of claim 6, wherein the compressed SMS message comprises a WBXML (Wireless Application Protocol Binary Extensible Markup Language) encoded message.”**

As discussed above, Section IX.3, *Singhal* discloses compressing data for transmission. *Singhal* also disclose a WBXML (Wireless Application Protocol Binary Extensible Markup Language) encoded message. Ex-1003, ¶184.

Singhal discloses that “files of type “XML” may be converted to **WBXML** (“Wireless Application Protocol Binary XML”) decks (see 205) or faxed to recipients (see 210), whereas files of type “ASCII” may be sent as e-mail (see 215).” Ex-1007, 7:56-60. *Singhal* also discloses that “the protocol proxy may determine that a data conversion operation is desirable, for example by converting

an XML document to a **WBXML** deck,” (*Id.*, 15:14-16), and then “delivers the resulting data to the WID [wireless information device].” *Id.*, 15:22.

Singhal also discloses that converting a document to WBXML deck “serves to simplify the user's task,” (*Id.*, 15:36-37) and is appropriate when “the data in the accessed format cannot be presented on the WID without first performing a conversion.” *Id.*, 15:37-39. For example, *Singhal* discloses converting incoming Microsoft Word files to WML (wireless markup language such as WBXML), “because Microsoft Word files cannot be rendered natively on most WIDs.” *Id.*, 15:44-46.

Because *Singhal* describes the advantages of using WBXML format (e.g., simplify the user's task), a POSITA would have been motivated to apply the teachings of *Singhal* to *Haller* to compress *Haller*'s SMS message to generate a WBXML encoded message. Ex-1003, ¶187. Also, as discussed above, the purpose of *Haller* is concerned about data synchronization between a PDA and a corporate server. A POSITA would have understood that the work-related data may include some types of files such as Microsoft Word files. *Id.* And *Singhal* discloses that WBXML format is necessary for Microsoft Word files, a POSITA would have been motivated to apply the teachings of *Singhal* to *Haller* to compress *Haller*'s SMS message to generate a WBXML encoded message. *Id.*

Therefore, the combination of *Haller* and *Singhal* discloses that the compressed SMS message comprises a WBXML (Wireless Application Protocol Binary Extensible Markup Language) encoded message. *Id.*, ¶188.

5. [Claim 8] “The method of claim 2, wherein the data formatted in a SyncML format comprises one of two MIME (Multipurpose Internet Mail Extensions) formats.”

As discussed above, Section IX.4, *Singhal* discloses formatting data to be synchronized in a SyncML format. *Singhal* also discloses MIME (Multipurpose Internet Mail Extensions) formats. *Id.*, ¶189.

For instance, *Singhal* discloses that “a multi-part **MIME (Multi-purpose Internet Mail Extensions)** message may be generated which contains the original content (in one part) and the service description (in another part),” because this may “provide different ways for conveying the list of available services.” Ex-1007, 15:3-8.

Also, other types of advantages provided by MIME are well-known in the art. Because of these advantages, a POSITA would have been motivated to apply the teachings of *Singhal* to *Haller* to generate a MIME message with the data to be synchronized and then transmit the MIME message. Ex-1003, ¶191.

Therefore, the combination of *Haller* and *Singhal* discloses that the data formatted in a SyncML format comprises one of two MIME (Multipurpose Internet Mail Extensions) formats.

6. [Claim 15] “The device of claim 14, wherein the formatter formats the data in a SyncML format.”

As discussed above in Claim 2, the combination of *Haller* and *Singhal* discloses that the formatter formats the data in a SyncML format. *See* Section IX.2. Ex-1003, ¶193.

7. [Claim 16] “The device of claim 14, wherein the at least one SMS message formatted by the formatter comprises a compressed SMS message.”

As discussed above in Claim 6, the combination of *Haller* and *Singhal* discloses that the at least one SMS message formatted by the formatter comprises a compressed SMS message. *See* Section IX.3. Ex-1003, ¶194.

8. [Claim 17] “The device of claim 16, wherein the compressed SMS message formatted by the formatter comprises a WBXML (Wireless Application Protocol Binary Extensible Markup Language) encoded message.”

As discussed above in Claim 7, the combination of *Haller* and *Singhal* discloses that the at least one SMS message formatted by the formatter comprises a compressed SMS message. *See* Section IX.4. Ex-1003, ¶195.

9. [Claim 18] “The device of claim 14, wherein the data formatted by the formatter in a SyncML format comprises one of two MIME (Multipurpose Internet Mail Extensions) formats.”

As discussed above in Claim 8, the combination of *Haller* and *Singhal* discloses that the data formatted by the formatter in a SyncML format comprises

one of two MIME (Multipurpose Internet Mail Extensions) formats. *See* Section IX.5. Ex-1003, ¶196.

10. [Claim 24] “The device of claim 23, wherein formatting the data message comprises formatting the data in a SyncML format.”

As discussed above in Claim 2, the combination of *Haller* and *Singhal* discloses formatting the data message comprises formatting the data in a SyncML format. *See* Section IX.2. Ex-1003, ¶197.

11. [Claim 28] “The device of claim 23, wherein the at least one SMS message comprises a compressed SMS message.”

As discussed above in Claim 6, the combination of *Haller* and *Singhal* discloses that the at least one SMS message comprises a compressed SMS message. *See* Section IX.3. Ex-1003, ¶198.

12. [Claim 29] “The device of claim 28, wherein the compressed SMS message comprises a WXML (Wireless Application Protocol Binary Extensible Markup Language) encoded message.”

As discussed above in Claim 7, the combination of *Haller* and *Singhal* discloses that the compressed SMS message comprises a WXML (Wireless Application Protocol Binary Extensible Markup Language) encoded message. *See* Section IX.4. Ex-1003, ¶199.

13. [Claim 30] “The device of claim 24, wherein the data formatted in a SyncML format comprises one of two MIME (Multipurpose Internet Mail Extensions) format.”

As discussed above in Claim 8, the combination of *Haller* and *Singhal* discloses that the data formatted in a SyncML format comprises one of two MIME (Multipurpose Internet Mail Extensions) format. *See* Section IX.5. Ex-1003, ¶200.

X. GROUND 4: *HALLER, SINGHAL, AND OUESLATI* RENDER OBVIOUS CLAIMS 9, 19, and 31

1. A POSITA Would Have Combined *Haller*, *Singhal*, and *Oueslati*

First, *Haller*, *Singhal*, and *Oueslati* are directed to data transmission between devices using cellular network. Ex-1005, Ex-1007, Ex-1008. Each reference includes similar components with similar functions, for instance, all references disclose synchronizing data between a wireless device and a remote device using the SMS format. Ex-1003, ¶¶201-207.

In addition, *Singhal* discloses specific synchronization protocols such as SyncML. Ex-1005, Ex-1003, ¶202. Further, *Oueslati* discloses a specific data format such as vcard. Thus, a POSITA would have sought to combine *Haller* with *Singhal* and *Oueslati* by utilizing the specific synchronization protocols and format disclosed by *Singhal* and *Oueslati* in *Haller*’s system. Ex-1003, ¶202.

2. [Claim 9] “The method of claim 8, wherein the two MIME formats comprise vcal and vcard formats.”

As discussed above, *Singhal* discloses MIME formats. *See* Section IX.5. Ex-1003, ¶203. *Singhal* also discloses transmitting calendar data between WID and a PC. For example, *Singhal* discloses “a WID issues a request to receive a current view of the user's **calendar** from his desktop PC.” Ex-1007, 16:21-23. Therefore, *Singhal* must uses v-calendar, i.e., **vcal** format.

In addition, *Oueslati* discloses a protocol vcard format. For instance, *Oueslati* discloses that a protocol uses a data type identifier “to determine the proper destination application. The data type identifier can identify by extension, MIME type or by application creator, for instance.” *Id.*, 2:60-64. The data type identifier “identifies more specifically the actual data type within the identified category. For instance, if the previous number was “1,” it is the Extension category of the data type (for example “vcf” means a **vCard** extension).” *Id.*, 9:45-49. *Oueslati* provides an example of sending “**vCards** wirelessly (e.g., using the **SMS** standard as a transport) to another computer system.” *Id.*, 10:3-5.

The advantages provided by vcard and vcal formats are well-known in the art. Because of these advantages, a POSITA would have been motivated to apply the teachings of *Singhal* and *Oueslati* to format data to be synchronized in *Haller* with vcard or vcal format. Ex-1003, ¶205.

3. [Claim 19] “The device of claim 18, wherein the two MIME formats formatted by the formatter comprise vcal and vcard.”

As discussed above in Claim 9, the combination of *Haller*, *Singhal*, and *Oueslati* discloses that the two MIME formats formatted by the formatter comprise vcal and vcard. *See* Section X.2. Ex-1003, ¶206.

4. [Claim 31] “The device of claim 30, wherein the two MIME formats comprise vcal and vcard formats.”

As discussed above in Claim 9, the combination of *Haller*, *Singhal*, and *Oueslati* discloses that the two MIME formats formatted by the formatter comprise vcal and vcard. *See* Section X.2. Ex-1003, ¶207.

XI. NON-INSTITUTION UNDER 35 U.S.C. §§ 314 OR 325 WOULD BE IMPROPER

Non-institution under 35 U.S.C. §§ 314(a) or 325(d) would be improper. The existence of parallel district court proceedings should not prevent institution of this Petition. *Cf. NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8, at 19-20 (PTAB Sept. 12, 2018); *see also* Litigation. No factor favors denial of institution because, at this time, there is no investment beyond the initial discoveries at the district court and this IPR petition. Moreover, the strong merits of this case favor institution.

A. Non-Institution Under 35 U.S.C. § 314(a) Is Improper

First, non-institution under 35 U.S.C. § 314(a) would be improper. Under the factors articulated in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020 (precedential)), non-institution in light of the litigations would be improper because Factors 2-4 and 6 of the *Fintiv* factors favor institution, and Factors 1 and 5 are neutral.

Factor 1 (district court stay) is neutral. While ZTE moved to stay on December 30, 2020, *see* Litigation, Dkt. 47, there remains no indication that the district court will grant or deny the motion to stay. *Int'l Bus. Machines Corp. v. Trusted Knight Corp.*, IPR2020-00323, Paper 15 at 9 (PTAB Jul. 10, 2020). As discussed below, the motion to stay is based on ZTE's pending Motion to Dismiss for Improper venue under § 1400, which unlike venue for convenience under § 1404, is not discretionary. *See* Litigation, Dkt. 45.

Factor 2 (proximity to district court trial) favors institution. The pending district court case is not scheduled for trial until June 20, 2022, and this date is subject to delays. Therefore, the Board will likely issue a final written decision before the pending district case. ZTE has moved to dismiss based on improper venue, and further moved to stay until venue is set. These motions are currently pending, making it "unclear that the court in the related district court litigation will adhere to any [future] scheduled jury trial date." *Sand Revolution II, LLC v. Cont'l*

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Intermodal Group-Trucking LLC, IPR2019-01393, Paper 24, at 9 (PTAB June 16, 2020) (informative). Should the district court grant either of the pending improper venue motion or the motion to stay, these cases will be assigned new, later trial dates likely in a new forum. Additionally, it is further noted that Judge Albright is unable to maintain trials based on their originally scheduled dates and is delaying the trials. As one example, the *VLSI Tech. LLC v. Intel Corp.*, No. 1:19-cv-00254 (W.D. Tex.) trial this month was delayed four months from its original date in October 2020.

Factor 3 (investment in district court case) favors institution. The parties' and the court's investment in this case has been minimal. *Fintiv*, Paper 11, at 11. Although preliminary infringement and invalidity contentions have been served, claim construction has only just begun, and the claim construction hearing is not scheduled to occur for another two months in May 2021. In addition, the parties have not conducted any substantive fact discovery, as fact discovery does not open until after the claim construction hearing. Finally, the district court has not addressed the substance of the '505 Patent—Patent Owner did not move for a preliminary injunction, and Defendants did not move to dismiss Patent Owner's action based on the substance of the '505 Patent, such as a motion to dismiss based on § 101. Where, as here, “the district court has not issued orders related to the

patent at issue in the petition, this fact weighs against exercising discretion to deny institution.” *Fintiv*, Paper 11, at 10.

Factor 4 (overlapping issues) favors institution. WSOU is a prolific filer of patent infringement lawsuits. Based on WSOU’s litigation activity, it is likely that WSOU will bring more suits against other parties based on the ‘505 patent. Resolving the invalidity questions raised herein would mitigate any concern of duplicative efforts in the future. Additionally, ZTE will stipulate that, if this IPR is instituted, it will not pursue the specific grounds identified in this Petition (Sections VII-X) before the district court. This stipulation mitigates any concern of duplicative efforts. *Sand Revolution*, Paper 24, at 11-12.

Factor 5 (whether petitioner is also the defendant in district court) is neutral.

Factor 6 (other circumstances) favors institution. As explained above, the challenged claims are unpatentable over *Haller*, *Yu*, *Singhal*, and *Oueslati*—none of which were considered during prosecution. A determination of its validity by the Board here would still save resources in the associated district court, and any additional cases WSOU may bring. There is a significant public interest against “leaving bad patents enforceable,” *Thryv, Inc v. Click-To-Call Techs., LP*, 140 S. Ct. 1367, 1374 (2020).

B. Non-Institution Under 35 U.S.C. § 325 Is Improper

Second, non-institution under § 325 would also be improper based on a weighing of the factors set forth in *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017). The asserted combinations are materially different and not cumulative of the prior art involved during the examination of the challenged claims. During prosecution, the following references were applied by the examiner, *Kobayashi* (Ex-1009), *Jokimies* (Ex-1010), *Sutinen* (Ex-1011), *Lohtia* (Ex-1012), *Alanara* (Ex-1013), *Corneliussen* (Ex-1014), *Schmidt* (Ex-1015), *Winarski* (Ex-1016), and *Lewontin* (Ex-1017). Among these references, *Kobayashi* was the primary reference. *Kobayashi* disclose a “mobile communication device [that] includes a unit for establishing a wireless link for a wireless communication with an external device, a unit for, via the wireless link, sending a signal to the external device to start software installed therein, a unit for, via the wireless link, receiving display data generated by software from the external device, and a unit for displaying on a screen the display data received.” Ex-1009, Abstract. But *Kobayashi*, even combined with other cited references, does not disclose or suggest formatting a data to be synchronized into at least one SMS message in an intermediate terminal device and transmitting the at least one SMS message from the intermediate terminal device to a second remote located terminal device through cellular network connection.

The prior art references presented in this Petition were never listed by the Patent Owner nor cited by the examiner. They were never discussed or applied by the examiner to reject any claims. The references, for example, *Haller* and *Yu* are materially different from and not cumulative of the references cited in the prosecution at least because they disclose formatting a data to be synchronized into at least one SMS message in an intermediate terminal device and transmitting the at least one SMS message from the intermediate terminal device to a second remote located terminal device through cellular network connection—elements that were missing from *Kobayashi* and other cited references. There is thus little to no overlap between the current and prior arguments. *Becton*, Paper 8, 23. But *Haller*, *Yu*, *Singhal*, and *Oueslati* teach the limitations, making denial under § 325(d) improper. Sections VII-X.

XII. MANDATORY NOTICES UNDER 37 C.F.R. § 42.8

A. Real Party-in-Interest

The real parties-in-interest are ZTE Corporation, ZTE (USA), Inc., and ZTE (TX), Inc.

B. Related Matters

Patent Owner has asserted the '505 patent in litigation against Petitioners in the Litigation, filed on June 3, 2020. *See also WSOU Investments, LLC v. ZTE*

Corporation et al., 6:20-cv-00255 (WSOU initially asserted the '505 patent against Petitioners on March 31, 2020 and dismissed the case on June 3, 2020).

C. Lead and Back-Up Counsel and Service Information

Petitioners provide the following counsel and service information. Pursuant to 37 C.F.R. § 42.10(b), Powers of Attorney accompany this Petition. Petitioners consent to e-mail service at the e-mail addresses identified in the table below, as well as at ZTE-WSOU-IPRs@finnegan.com.

LEAD COUNSEL (ZTE)	BACK-UP COUNSEL (ZTE)
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XIII. GROUNDS FOR STANDING

Petitioner certifies the '505 patent is available for IPR and Petitioner is not barred or estopped from requesting IPR challenging the patent claims on the grounds identified in this Petition.

XIV. CONCLUSION

Petitioner has established a reasonable likelihood of prevailing with respect to each of the challenged claims 1-45 of the '505 patent. Petitioner therefore requests the Board institute *inter partes* review and cancel each of these claims as unpatentable.

The Office may charge any required fees for this proceeding to Deposit Account No. 06-0916.

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Date: March 31, 2021

Respectfully Submitted,

/Lionel M. Lavenue/
Lionel M. Lavenue, Lead Counsel
Reg. No. 46,859

CERTIFICATION UNDER 37 C.F.R. § 42.24(d)

Pursuant to 37 C.F.R. § 42.24(a)(1)(i), the undersigned hereby certifies that the foregoing PETITION FOR *INTER PARTES* REVIEW contains 13,215 words, excluding the parts of this Petition that are exempted under 37 C.F.R. § 42.24(a), as measured by the word-processing system used to prepare this paper.

/Lionel M. Lavenue/
Lionel M. Lavenue, Lead Counsel
Reg. No. 46,859

CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing Petition for *Inter Partes* Review, the associated Power of Attorney, and Exhibits 1001 through 1017 are being served on March 31, 2021, by Priority Mail Express or by means at least as fast as Priority Mail Express at the following address of record for the subject patent.

Sean Burdick
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A courtesy copy has been served on litigation counsel at:

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